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Competitiveness and Sustainable Development Goals

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Abstract

The Sustainable Development Goals (SDGs), adopted by the UN Member States, have been specifically proposed to address some of the main socio-environmental and economic problems affecting developed and developing countries. Based on and expanding the Millennium Development Goals (MDGs), which were established in 2001 and expired at the end of 2015, the SDGs will be used to frame the political agenda over the next 15 years.

Composed of 17 goals and 169 targets, and selected by a participative and diplomatic process of stakeholder consultation, the SDGs aim to improve the lives of present and future generations within a framework of equity, inclusion and sustainability. By identifying a set of priorities and establishing time-bound and measurable objectives, the goals and targets aim to establish specific political agendas and increase global awareness of the socio-economic and environmental issues. Within this context, the multidimensional framework that characterises the SDGs aims to address a large set of interrelated objectives. Synergies and trade-offs can, however, exist and policies that are oriented to address a specific problem can result in consequences for other sustainability dimensions. An example of this is competitiveness: this is generally defined by economic variables and can be described as a productivity increase or an improvement in the market share of a particular company or nation. Competitiveness, however, is also related to socio-environmental variables and a specific socio-environmental context or regulation can influence competitiveness both in the short term and in the long term.

By addressing a large set of socio-environmental and economic problems, the SDGs are expected to have impacts on the competitiveness of companies and nations. Within this context, the main objective of this report is to identify the links between the concept of competitiveness and the goals and targets established in the SDGs. The analysis of the possible connections and the identification of indicators that can track the impacts that sustainability strategies could have on competitiveness will be useful to increase the effectiveness of the SDGs and to reduce the costs of policies.

Keyword: Competitiveness; sustainable development goals; EU-28; multidimensional perspective; policies

1 Introduction

The present trends of population growth, changing lifestyle, urbanisation and unsustainable patterns of production and consumption are increasing the pressures on socio-economic and environmental systems. The competition for natural resources, together with unequal distributions of socio-political and economic power, is contributing to the rise of conflicts both within and across countries. Within this context, the international community faces a large set of problems that make sustainable development a difficult target to achieve, as demonstrated by the large number of attempts that have taken place in the past.

In spite of the progress achieved by the Millennium Development Goals (MDGs), which were established by the Millennium Declaration of the United Nations in 2000 and expired at the end of 2015, large inequalities still exist across countries and an increasing number of conflicts related to the use of natural resources and power distribution are expected to arise in the near future.

To move forward in the process of sustainable development, governments and international organisations have negotiated an ambitious Post-2015 Developed Agenda.

Based on and expanding the core components of the MDGs, this follow-up agenda, known as the Sustainable Development Goals (SDGs), aims to 'improve people's lives and to protect the planet for future generation'. By including elements of economic development, social inclusion and sustainable environmental management, the SDGs have been defined according to the triple-bottom-line sustainability approach. The main objective is to deal with a set of problems that affect developed and developing countries. For this reason, a global perspective has been adopted in the definition of the goals and in the identification of the guiding principles for the policy framework (Sachs, 2012; Beishem et al., 2015).

The SDGs, adopted by UN Member States in September 2015, include a set of 17 goals and 169 targets to be achieved by 2030. Some of the core elements have been designed based on the principles included in the MDGs.

However, additional elements have also been included. In particular, goals 1 to 6 build on the core agenda of the MDGs, while goals 7 to 17 incorporated new ideas (UNSDSN,

2015)¹. Three main principles that stemmed from the convergence of the MDGs and the Rio+20 Conference have been used to shape the SDGs, namely (UNEP, 2015):

- leave no one behind;
- ensure equity and dignity for all;
- achieve prosperity within Earth's safe and restored operating space.

The sustainable development approach adopted in the SDGs is based on the idea that economic prosperity, environmental protection and social well-being are interconnected elements that cannot be addressed separately. An integrated approach, based on the promotion of equity and equality, the inclusion of multiple cultural values, prosperity and development, human rights and environmental conservation, has been used to identify the goals and targets of the SDGs. As a result, the SDGs have been specifically formulated, based on four main elements (UNEP, 2015):

1. human well-being is intrinsically linked to the health of the natural ecosystem;
2. global environmental challenges not only affect the development of the poorest but also pose a threat to the long-term prosperity of development;
3. addressing inequalities in the distributive benefits of development is critical for global sustainable development;
4. sustainable resource management, and maintenance and safeguarding of natural capital are fundamental aspects of long-term development.

A general recognition also exists of the fact that different cultures and generations can have different values and different sets of priorities. For this reason, an Open Working Group (OWG) on SDGs composed of stakeholders from developed and developing countries has been established to define the main goals and targets that are included in the SDGs.

According to this approach, the different targets and goals have been specifically designed to have a global, multidimensional, interrelated and intergenerational focus. For this reason, a multi-stakeholder collaborative approach will be used to design the policies that are related to the SDGs in governments, business activities and civil society (Sachs, 2012).

According to Eckley (2001), the involvement of different stakeholders and the inclusion of a wide range of sustainability perspectives are key elements, not just for the definition of the goals, but also for the effectiveness of the implementation process and for the definition of legitimacy and credibility.

¹ The 17 goals are listed in the Appendix A1 of this report.

However, the global, multidimensional and intergenerational structure of the SDGs makes the identification of policies and implementation strategies a difficult task to achieve. Improvements in a particular socio-economic or environmental dimension can generate impacts on other dimensions, with possible synergies and trade-offs between the different SDGs and targets. A clear example of this is the concept of competitiveness. Generally defined in economic terms, competitiveness has an extensive set of connections with the socio and environmental dimensions. For example, regulations that are oriented to protecting natural resources or increasing social equality and redistribution can affect the productivity of a company. At the same time, the company's behaviour can affect the socio-environmental structure, with impacts occurring in both the short and long term.

Bearing these types of effects in mind, the main objective of the present report is to analyse the definition of competitiveness and to investigate the links between competitiveness and SDGs. The analysis will be useful to support the identification of effective implementation policies and to reduce overall costs across the different socio-economic and environmental dimensions.

The report is structured as follow: Section 2 provides an overview of the SDGs and identifies the main limits, criticisms and challenges related to the definitions and implementation policies. Section 3 focuses on the concept of competitiveness and provides a literature review and a multidimensional definition. Section 4 analyses the links between SDGs and competitiveness. Section 5 discusses competitiveness policies within a sustainable development framework and overall conclusions are discussed in Section 6.

2 Sustainable Development Goals

2.1 Overview and rationale

The SDGs are oriented to address a set of global economic, social and environmental challenges that affect societies all over the world. Based on some of the main elements that have already been incorporated into the MDGs, the SDGs include improvements in the definitions of the goals and in the strategies that must be adopted by governments and stakeholders. In particular, some important changes have been adopted, compared with the earlier sustainability frameworks:

- 1) **Multidimensionality and integration:** The SDGs are not just focused on human development (as were the MDGs), but they are oriented to pursue sustainability by considering environmental, social and economic elements in an integrated way. The idea that the SDGs should become 'universally applicable', without a distinction between developed and developing countries, is a step forward compared with the earlier sustainability frameworks. In addition, the aim of 'incorporating in a balanced way all three dimensions of sustainable development and their inter-linkages'² is an important element in the promotion of a set of implementation strategies that are oriented to consider the co-benefits and trade-offs between the different sustainability dimensions (Sachs, 2012).
- 2) **Global perspective:** The MDGs mainly targeted poor countries and required the solidarity and assistance of developed areas. The SDGs have a different approach, because they pose goals and challenges for all the countries of the world (Sachs, 2012).
- 3) **Participative approach:** The SDGs have been formulated by the United Nations, with the participation of a wide range of stakeholders. The main objective was to gauge a wide range of opinions and perspectives on what the future of human development should include. Representatives from 70 different countries were consulted and 83 national consultations, a door-to-door survey and the online 'MY World' survey were carried out over a period of two years to identify the thematic areas and priorities that citizens and experts wanted to see addressed in the goals. According to this approach, an on-going process oriented to involve business activities and civil society should be carried on at both national and international levels.

² UN, 2012. The Future We Want. Resolution 66/288, 246.

The participative approach that has been used to define of the SDGs will also be used during the implementation process. The involvement of people with different cultures, generations and backgrounds is a prerequisite to reduce conflicts and to promote legitimacy and credibility. In order to make the SDGs accessible to the largest number of potential stakeholders, the SDGs have been specifically designed to be:

- easy to communicate;
- focused on outcome rather than on process;
- measurable;
- manageable;
- internationally agreed;
- based on multilevel governance.

- 4) **Dynamic approach:** Since the goals are expected to generate benefits over the next 15 years, a continuous debate between stakeholders of different generations is also expected to take place. The changing conditions in the socio-economic and environmental structures should be taken into account to revise policies and implementation strategies.
- 5) **Different responsibilities:** The SDGs that are established by an extensive participative process should serve as a normative reference for the policy strategies of the next 15 years. In general terms, the sustainability aim that was established during the consultation activities was 'global in nature and universally applicable to all countries'. However, different national realities, capacities and levels of development should be considered both in the design and in the implementation of the policies. For this reason, clear and differentiated responsibilities at local, national and global levels are needed to make the SDGs an achievable reality. The idea of 'one-size-fits-all', used in the MDGs, seems to be no longer applicable and local characteristics should to be considered in both the definition and the implementation of the goals and targets. Although global objectives are needed, specific targets, based on the characteristics of national realities, are fundamental to shape sustainability at local levels.
- 6) **Broad and comprehensive goals:** Broad societal communication imposes limits on complexity. For this reason, the SDGs have been defined in a broad and comprehensive manner. In contrast, the targets and indicators will focus on specific issues.

- 7) **Meta-governance:** Bottom-up and top-down approaches should be combined to design policies and implementation strategies. In particular, 'meta-governance', defined as 'the art to design and manage diversified combinations of governance style' (Jessop, 2011), could be useful to integrate hierarchical approaches with social networks and market approaches (Niestroy and Meuleman, 2015). The main objective is to combine different administrative cultures, values and traditions with the aim of finding the broadest agreements between the different stakeholders involved in the sustainability process (Christopoulos et al., 2012).
- 8) **Integration between science and policies:** The interactions between science and policy are important to identify the synergies and trade-offs between targets, goals and implementation strategies. For this reason, specific research initiatives should be devoted to study in this area. The objective is to make policies as efficient as possible (Niestroy 2014; Pisano et al., 2015).
- 9) **Financial support:** The implementation of the SDGs will have significant impacts in terms of resource use and investment. The public sector will probably be unable to provide sufficient funding to cover all the SDG-related objectives. For this reason, the increasing participation of the private sector will be required. According to data provided by UNCTAD (2014), the current annual investment of USD 1.4 trillion will not be sufficient to cover the needs related to the implementation of the SDGs. An additional USD 2.5 trillion a year will have to be provided by the public and private sectors. The current level of private sector participation, which accounts for approximately USD 0.9 trillion a year, will have to increase to at least USD 1.8 trillion a year.

The SDGs should have a clear financing strategy. Rather than relying on aid promises announced by countries, a specific and transparent financial plan based on quotas and assessments should be put in place. A multi-stakeholder platform would also be useful to discuss the overall investment goals, check profitability and increase transparency on governance and performance.

- 10) **Public versus private intervention:** Sectors for public and private intervention should be clearly identified. Some private sectors, such as energy infrastructures, transport and water sanitation, have high potential for intervention in the implementation of the sustainability goals. In contrast, activities with a high risk–return ratio, such as investments for adaptation to climate change, education and health care, are more suitable for public interventions (UNCTAD, 2014).

The ethical issues related to private sector intervention should be carefully considered. Shifts of power and responsibility from the public to the private sphere should be included in the analysis of the possible costs and benefits generated by private sector participation.

Good governance and public intervention are also important to promote private sector intervention. Some specific measures that could be useful include:

- lowering of entry barriers to attract private finance in sectors that require high levels of structural investment;
- clear and stable regulations concerning taxation, property rights and natural resources use could be useful to attract private investment, particularly in developing countries;
- training and information are needed to promote and facilitate private investment, particularly between the stakeholders in developing areas.

11) Inclusivity and equity: The SDGs should ensure inclusivity and equity in economic growth and development. Productivity should increase and policies related to the labour market and quality of social care should be implemented to ensure quality of growth and to promote poverty reduction. Increasing information, communication and trust can also have important implications for economic growth and employment (Freeman, 2009). Furthermore, the disadvantages facing women remain a major barrier to human development. Gender-sensitive development strategies are at the core of the SDGs agenda, which has the aim of adopting and strengthening policies and legislation to eliminate gender disparities in education and to empower women and girls to ensure effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life, and to eliminate all forms of violence and harmful practices against women and all those in vulnerable situations.

To summarise the points described above, Bhattacharya (2015) identified five distinguishing features of the SDGs, namely:

- they are based on a universal agenda;
- they adopt an integrated and holistic package that builds on economic, social and environmental pillars;

- they include issues related to inequality, for example inequality among countries, inequality between countries, discrimination, marginalisation and intergenerational inequality;
- they have a strong emphasis on building productive capacities, and sustainable incomes and providing decent work;
- they incorporate means of implementation under each of the goals and as a separate goal.

In addition, many of the goals included in the SDGs are multifunctional in nature and have been specifically constructed to include the three main dimensions of sustainability, namely economics, society and the environment (Basnett and Pandey, 2014). However, many synergies and complementarities can exist between the different SDGs. Improvements in one dimension could generate negative trade-offs in another. For this reason, specific analysis would be needed to identify possible interactions, and policies should be designed by taking into account the interrelated nature of the socio-economic and environmental dimensions. An example of this is provided by the concept of competitiveness, which is included in different goals and targets without a clear definition of what competitiveness means and without an analysis of the possible synergies and trade-offs between the different sustainability dimensions. For this reason, the following sections will discuss the concept of competitiveness and its relationships with the SDGs.

2.2 Main challenges

Sustainability is a difficult task to achieve; therefore, there are different challenges for the implementation of the SDGs. Some examples of these are described below.

1. **Integrated approach:** Since the objectives established by the SDGs are highly interdependent, an integrated approach is required rather than sequential interventions. Policies and institutions acting at local, regional and global scales should address multiple elements at the same time. Analysis of the possible synergies and trade-offs between the different goals and targets is also required to reduce the implementation costs and to improve the effectiveness of policies. The SDGs must be designed and implemented in a way that is interdependent and mutually reinforcing (ICUS-ISCC, 2015).
2. **Partnerships, international cooperation, stakeholder participation** and transparency are required to promote effective implementation of the SDGs (EC, 2015).

3. **Sustainability analysis:** Analysis of the current trends in use of natural resources can be useful to investigate how scarcity of natural resources can affect the fulfilment of the SDGs. An example is provided by food demand and agricultural production. In order to satisfy growing food demand, increasing agricultural production is required. However, to decrease the environmental impacts, the use of fertiliser and pesticides should decrease in both absolute and relative terms. Specific analyses should be devoted to investigate how natural resources should be used to satisfy human needs from both short- and long-term perspectives (UN, 2012).
4. **Financial support:** A large amount of financial resources will be needed to implement the SDGs. Mobilisation of resources from private and public sources, including foreign direct investment, bank loans, bond insurance, equity and other risk capital, will be needed to achieve the goals and targets proposed in the Post-2015 Agenda. According to data provided by the European Report on Development (2015), public resources are the main source of finance. Private finance has grown but remains highly volatile compared with the support provided by the public sector.
5. **Finance and policies integration:** Financial availability is not sufficient by itself. Coordination with appropriate policies and a clear accountability system are needed to ensure that finance is used effectively. In addition, effective and coherent policies can be useful to promote the mobilisation of further financial resources (European Report on Development, 2015).
6. **Definition of indicators:** As reported above, one of the main problems in the monitoring and implementation of the SDGs is related to the identification of an effective set of indicators (Vandemoortele, 2011).
7. **Data availability and collection:** In spite of the achievements during the process of implementation of the MDGs, a large proportion of the data was inconsistent in terms of collection approach, time and geographical disaggregation. In addition, the new targets proposed by the SDGs represent an additional challenge, in terms of both quantification and data collection. The recent technological developments in the areas of geographical information systems, tools for data collection, online surveys and social networks can certainly improve the collection of high-quality and real-time data across countries and targets (SDSN, 2014). However, to ensure the quality of data, coordinated monitoring and data collection systems should be established between regions, sectors and countries (Ivanova, 2012).

8. **Knowledge and information about ecosystems services** are fundamental for developing ways to achieve targets related to sustainability and well-being. Since ecosystem services can be maintained in the long term only if their integrity is restored and preserved, the implementation strategies of the SDGs must be able to integrate this information into development plans.

The challenges reported above highlight the difficulties that exist in the definition and implementation of a sustainability approach that should be multidimensional and include different spatial and temporal scales. Over the past decades, there have been many attempts to create a growing prosperity that goes hand in hand with social justice and environmental protection. The Rio Declaration on Environment and Development, Agenda 21, the MDGs and the UN Conventions on Climate Change are some examples. In spite of the large improvements that have been seen, particularly in increasing social and political awareness, there are still substantial difficulties in identifying a model of development that can promote environmental sustainability and inclusive growth (Baxter, 2000; Beitz, 2009). As highlighted in earlier literature (Funtowicz and Ravetz, 1994; Martinez-Alier et al., 1998), the main challenge is related to the fact that sustainability is a concept that is difficult to define and therefore difficult to apply. The different values and priorities that exist for different generations and societies, together with the large uncertainties related to the impact that human actions could have on the environment, make it difficult to identify policies that could deal with the dynamic and multidimensional characteristics of our societies. Improvements in a specific sustainability area could generate negative effects in another area. For this reason, coordinated policies, scientific evidence and wide social participation are needed to identify the best strategies for long-term and sustainable prosperity (Acemoglu and Robinson, 2006).

3 Competitiveness: literature review and definitions

The concept of competitiveness is highly controversial and a wide variety of definitions have been proposed over the last few centuries (Bristow, 2005; Lovering, 2001). The classical economist David Ricardo linked the concept of competitiveness to international trade and proposed the theory of comparative advantage. Based on this approach, competitiveness is mainly described in terms of costs. In a situation of free trade, an economic agent has a comparative advantage when it can produce a particular product (or service) at a lower relative opportunity cost than the other producers. This concept can be easily extended to nations, by suggesting that efficient firms can increase the competitiveness of a country by improving its international position in the global market.

The neoclassical approach extended the concept of competitiveness to the idea of economic growth. An economic sector, country or business activity is considered to be competitive when it is able to maintain or improve its capacity to sustain economic growth in an international environment (Mulatu, 2016).

More recently, the concept of competitiveness has been extended to include the ability of a country to raise its standard of living. According to the definition provided by Tyson (1992), competitiveness can be described as 'our ability to produce goods and services that meet the test of international competition while our citizens enjoy a standard of living that is both rising and sustainable'. In a similar way, Porter and Rivkin (2012a) suggested that a particular location is competitive 'to the extent that companies operating in that are able to compete successfully in the global economy while supporting high and rising living standards for the citizens'. Following the development proposed by Porter (1991), the concept of competitiveness has also evolved from including traditional variables, such as profitability, keeping costs down and price setting, to concepts related to the quality of products and technological innovation. For this reason, competitiveness is today considered a dynamic concept able to provide better quality of life based on adaptation and technological innovation.

During the last few years, the definition of competitiveness has also been disaggregated into business, sectoral and national perspectives. According to Dechezlepretre and Sato, (2014), at 'firm level a business is competitive if it can produce better or cheaper products or services than its domestic or international competitors'. In the long term, competitiveness will increase profit performance and will ensure adequate economic returns to its owners. At a sectoral level, competitiveness is described as 'how attractive different countries are for a particular industry'. The availability of labour, skills and raw materials, together with economies of scale and infrastructures, are the main factors that can increase the performance of a particular economic sector in international markets. At country level, competitiveness is identified using a set of factors that extend from economic to socio-environmental variables. Standard of living, health, local pollution, employment and stability are some of the variables that are used to quantify the country-level element of attractiveness.

When analysing competitiveness, the relationships between firms, sectors and countries must also to be taken into account. The relationships between them can generate synergies and trade-offs that can increase (or reduce) the overall competitiveness of the firm, sector or country. As highlighted by Esty and Charnovitz (2013), if a company increases profitability by polluting the environment and by generating pollution-related health costs, the overall competitiveness of the nation will be affected. In a similar way, a short-term profitability that is generated, for example by socio-environmental

exploitation, could result in a long-term reduction in competitiveness. According to this framework, competitiveness should be defined based on a multidimensional perspective. This is because competitiveness is not only about costs and profitability but involves how countries, sectors and firms manage socio-economic and environmental resources to achieve greater prosperity, in both the short and long term (Esty and Sharnovitz, 2013). For example, economic resources can be used at a country level to promote additional economic growth, human capital development, redistribution, equality and well-being. At sectoral level, the interactions between companies can generate economies of scale, technological development, innovation and efficient resource use. At firm level, the impacts on the environment and the use of natural resources can influence the level of development and the well-being of populations. For these reasons, the multiple interactions between the different economic levels and the different socio-economic and environmental dimensions should be taken into account in the planning of a sustainable competitiveness approaches.

This broader definition of competitiveness can be described using the concept of 'sustainable competitiveness' and this is based on the idea that competitiveness today should be reached without compromising the possibility of competitiveness tomorrow. It includes elements of high-quality growth, resource management, social equality, human development and well-being. Within this context, the concepts of social and environmental sustainability are linked to that of competitiveness. According to the definition provided by Corrigan et al. (2014), sustainable competitiveness, social sustainability and environmental sustainability are described as below.

- **Sustainable competitiveness** is defined as the set of institutions, policies and factors that make a nation productive over the longer term, while ensuring social and environmental sustainability.
- **Social sustainability** is defined as the institutions, policies and factors that enable all members of society to experience the best possible health, participation and security, and which maximise their potential to contribute to and benefit from the economic prosperity of the country in which they live.
- **Environmental sustainability** is defined as the institutions, policies and factors that ensure efficient management of resources to provide prosperity for present and future generations.

As it generates benefits across all the elements of society, sustainable competitiveness should be the ultimate objective of business and national development. The impacts generated outside the national border should also be taken into account. Since we live in a globalised world, in which every business and country is closely related to the policies and decisions taken in other world areas, the concept of sustainable competitiveness

should be addressed with an international coordinated perspective. The impacts that different policies could have on societies and businesses should also to be evaluated from both a short- and long-term perspective.

Currently, there is a wide debate on the costs and benefits that different environmental regulations could generate for the economy and society. In particular, two opposing views exist in relation to the impacts that environmental policies could have on business activities.

- Environmental policies could damage the economic performance of regulated industries and increase the social pressure in the areas that are not affected by regulations. By imposing environmental standards on a particular set of industries, environmental policies can increase the overall production costs and reduce the competitiveness of companies in international trade (Copeland, 2012). In addition, by imposing environmental constraints in a particular geographical area, business activities are induced to move to unregulated regions, generating social and environmental exploitation in the areas not affected by these policies. The 'pollution haven' theory, which states that countries with relatively lax regulation will specialise in the export of pollution-intensive goods, has been widely debated in the international literature. In addition, environmental regulations may also affect the competitiveness of the domestic industries if similar regulations are not adopted by other countries (Jeppsen et al., 2002; Wagner and Timnis, 2009; Leiter et al., 2011; Ben-Kheder and Zugravu, 2012).
- Environmental regulations could increase the international competitiveness of firms and economies. Defined as the 'Porter hypothesis' (Porter, 1991), this view argues that environmental constraints can trigger innovation that may offset the costs of complying with them. Productivity increase, product diversification and environmental-friendly production can improve the international competitiveness and the market share of a particular company or economy.

During the last 20 years, a vast literature has been focused on this topic and a large set of theoretical and empirical analyses have been performed. Particular attention has been devoted to investigate the relationships between (1) jobs and the environment or (2) environment and productivity and costs (for a detailed review see Ambec et al., 2013). In general terms, no evidence has been found for negative effects on jobs, mainly because workers will move from the declining and polluting industries to the expanding and clean sectors (Belova et al., 2013; Brahmabhatt, 2014). Some studies also suggest that the number of jobs could also increase because more labour is required for pollution control activities (Berman and Bui, 2001; Cole and Elliot, 2007; Anger and Oberndorfen, 2008; Chan et al., 2013). In terms of environmental regulation versus productivity, no

universal consensus seems to exist. On the one hand, environmental regulation can increase the production costs and the technological constraints of business activities; on the other hand, consumers may prefer companies that take care of environmental variables (see Kozluk and Zipperer, 2013, for a detailed review). Some studies have reported that, after an initial transition period, the impacts in the long run seem to be small, with productivity unaffected by environmental regulation. Other analysis has suggested that environmental regulations can affect the profits of a particular industry but, if associated with efficient policy instruments, the overall national competitiveness tends to increase (Berman and Bui, 2001; Alpay et al., 2002). In addition, according to the 'induced innovation hypothesis', if regulated firms face higher costs of production, this can give them an incentive to make operational changes and investments, while reducing environmental impacts (Acemoglu et al., 2012).

In spite of the large debate concerning the impacts of environmental regulation, environmental sustainability is today an important factor for corporate strategy and competitiveness, at both firm and country level. According to various studies, environmental performance and competitiveness seem to be positively related (Esty et al., 2006; Greenstone et al., 2011; Lanoie et al., 2011). Evidence is provided, for example, by the data summarised in the 2012 Environmental Performance Index. According to this report, the 10 highest ranked countries are also ranked in the top half of the World Economic Forum's Global Competitiveness Index (GCI) 2012–2013 and seven are in the top quartile.

Business activities seem to be moving beyond the paradigm of environmental progress versus economic profitability; today, corporate strategies recognise sustainability as a possible source of competitive eco-advantages. An increasing number of companies voluntarily provide data on pollution and emissions, and there is a general consensus that sustainability can contribute to reduced risks and lower long-term costs (Esty and Winston, 2009). According to Lucci (2012), there is also a growing interest among long-term investors in the disclosure of non-financial information, particularly regarding the risks related to climate change, energy supply and social instabilities.

In this context, characterised by increasing integration between traditional economic variables, social elements and environmental objectives, increasing attention is also being devoted to the way in which competitiveness should be measured. Since the standard definition of competitiveness, based on productivity and market share, has been extended to include elements such as social prosperity, inclusion and environmental quality, an alternative accounting framework must be defined. During the last few decades, a large number of corporate sustainability indices have been developed, for example the GCI, the Global Reporting Initiative (GRI), the Sustainable

Competitiveness Index (SCI) and by the Extractive Industries Transparency Initiative (EITI).

In spite of these initiatives, there is still no clear methodology to evaluate competitiveness in a multidimensional and internationally agreed framework (SCI, 2015). The advancements in information technologies have facilitated the collection of data related to the economy, society and the environment. However, since companies report information based on voluntary initiatives, the collection of data can be based on different accounting methods. For this reason, it could be difficult to perform comparisons regarding companies and performance, particularly when developing countries are involved. The definition of a clear accounting framework for the evaluation of competitiveness is an urgent and fundamental element that can contribute to the development of policies that are oriented to increase prosperity, in both the short and long term (Eccles et al., 2011).

4 Competitiveness and Sustainable Development Goals

The multidimensional definition of competitiveness discussed above can be analysed in relation to the goals and targets established in the SDGs. As described above, the SDGs aim to achieve a set of objectives pertaining to economic, social and environmental dimensions. The progress gained in a specific area, however, could generate synergies and trade-offs in another. The analysis of the relationships between targets and goals and the impacts that specific policies could have across the different dimensions should be considered in order to minimise implementation costs and make policies as effective as possible.

The results of this type of analysis are particularly relevant to competitiveness. As described in Section 3, competitiveness can be defined according to different socio-economic and environmental variables. For this reason, it would be useful to investigate the impacts that a particular policy, when applied to a particular dimension, could have across different elements that are related to competitiveness.

The universal agenda, the more general political significance and the broader focus on a sustainability approach, based on the integration between socio-economic and environmental variables, mean that the SDGs are closely related to the multidimensional definition of competitiveness. According to the United Nations Open Working Group on SDGs, 5 of the 17 SDGs are directly related to the pillars and the sub-pillars that are included in the GCI. As reported in Table 1, Goals 3, 4, 8, 9 and 16 are included in the GCI, while Goals 6, 10 and 15 are related to the Sustainable Competitiveness Framework (SCF).

Table 1. SDGs and competitiveness indices

Goals proposed by the UN's Open Working Group on SDGs		Equivalent in the GCI	
Goal 3: ensure healthy lives and promote well-being for all at all ages		4th pillar (health sub-pillar)	
Goal 4: ensure inclusive and equitable quality education and promote lifelong learning opportunities for all		4th pillar (primary education sub-pillar) and 5th pillar (higher education and training)	
Goal 6: ensure availability and sustainable management of water and sanitation for all		Sustainable Framework	Competitiveness
Goal 8: promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all		7th pillar (labour market efficiency)	
Goal 9: build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation		2nd pillar (infrastructure) and 12th pillar (innovation)	
Goal 10: reduce inequality within and among countries		Sustainable Framework	Competitiveness
Goal 15: protect, restore and promote sustained use of terrestrial ecosystems, sustainably management forests, combat desertification and halt and reverse land degradation and halt biodiversity loss		Sustainable Framework	Competitiveness
Goal 16: promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels		1st pillar (institutions)	

Source: adapted from the United Nations Open Working Group on SDGs, July 2014.

The idea of inclusive growth and long-term development established in the goals and targets reported in the SDGs is also in line with the Global Competitiveness Report 2015–2016, compiled by the World Economic Forum, which aims to show a direct link between economic, social and environmental sustainability performances.

To extend the analysis already performed by the UN Open Working Group on SDGs, the following section will identify the interrelationships between SDGs and the concept of competitiveness, according to three different, but interrelated competitiveness categories, namely (1) economic competitiveness; (2) social competitiveness; and (3) environmental competitiveness.

As reported above, the concept of competitiveness has been extended to include a large set of socio-economic and environmental elements. Today, the definition of competitiveness is closely related to the concept of inclusive growth, which looks at how countries can simultaneously achieve growth and balance socio-environmental outcomes. This is because an unsustainable environmental model and an unequal distribution of resources can undermine the stability of growth and reduce competitiveness in the long term. For this reason, sustainable competitiveness is closely related to economic, social and environmental competitiveness.

Economic competitiveness can be related to sustainable competitiveness by various elements; we would like to highlight those described below.

- **Long-term economic growth:** A short-term profit maximisation perspective should be replaced by an economic growth perspective that is oriented to generate benefits in the long term. Within this context, economic growth should be able to sustain itself through the adoption of strategies that manage economic, social and environmental resources from a sustainable and long-term perspective.
- **Investments:** Infrastructure, human capital and research and development should be promoted to increase efficiency and competitiveness and to reduce overall production costs.
- **Specialisation and diversification:** The economic sectors that can provide a competitive advantage in international markets should be given particular attention in the policies for competitiveness. However, the diversification of production, oriented to reduce the risks associated with market, social and environmental shocks, should also be promoted.
- **Finance:** Financial support, from both private and public sectors, is needed to promote the development of business activities and to increase competitiveness on the national and international markets.
- **Access to economic resources and clear legislation:** The possibility of having equal rights in the use of economic resources, together with clear legislation in terms of ownership and control, and a consistent and effective framework in

terms of illegal activities, are fundamental elements needed to promote investment, economic growth and an increase in competitiveness.

- **Trade restrictions and market distortions:** International legislation should contribute to reducing trade restrictions and avoiding the market distortions that can prevent improvements in efficiency and productivity and can generate an unequal distribution of opportunities between countries and business activities.
- **Accounting framework:** The development of a consistent accounting framework can be useful to increase the transparency of the activities in the public and private sector. This will also facilitate comparisons of the performances and practices of the different business initiatives.
- **Resilience:** The recovery capacity of the economic system, recently hit by different financial shocks, and its ability to enhance financial stability should be strengthened by improving the regulation and monitoring of global financial markets and institutions and by implementing macro-prudential policies to guarantee sustainable economic growth in financial terms. An efficient financial market is nowadays considered to be a core characteristic of the economic competitiveness of a country. The SDGs highlight not only the need for universal financial risk protection, but also the demand for universal access to banking, insurance and financial services that is promoted by development-oriented policies. The increase in financial inclusion should be based on the increase in financial literacy among people, including marginalised groups, and should be promoted by the expansion of microfinance for small business owners and an increase in long-term finance.

Social competitiveness can be related to sustainable competitiveness by various elements; we would like to highlight those described below.

- **Inclusion and equality:** An inclusive society ensures that all citizens benefit from economic growth and contribute to the prosperity of their own country. Social inclusion and equality are fundamental for stability, social cohesion and long-term development. Any type of exclusion and inequality that prevents people from participating in the following activities can undermine the social stability, the integration and development of social and human capital, with negative consequences on productiveness and long-term competitiveness:
 - ✓ social activities, such as education, health services and the welfare state;
 - ✓ political activities, such as involvement in participative decision-making processes and elections;

- ✓ economic activities, such as business development, job markets, job training and fair remuneration.
- **Equity and cohesion:** Equal opportunities, clear legislation and equal rights must be guaranteed for all members of society. This should include the possibility of developing individual talents, accessing resources and having an equal distribution of benefits with limited income disparities.
- **Resilience:** A social system characterised by inclusion, equity and cohesion is more likely to be able to absorb temporary or permanent shocks and to adapt quickly to changing conditions. For this reason, a well-developed welfare state is particularly useful to reduce the impacts that unexpected events could generate on society and to help groups of citizens recover from unemployment and illness.
- **Culture:** The promotion of a culture of equality, sustainable lifestyles, peace and the appreciation of cultural diversity can increase social stability and the interactions between members of society.

Environmental competitiveness can be related to sustainable competitiveness by various elements; we would like to highlight those described below.

- **Long-term perspective:** A long-term perspective should be adopted in the management of the natural environment. Short-term profit maximisation strategies adopted by governments and business activities should be replaced by policies oriented to the preservation resources in accordance with the principles of renovation and carrying capacity.
- **Resilience:** Limited impacts on environment and sustainable use of natural resources contribute to increase the resilience of the natural system, improve the adaptability of society and reduce the costs of unexpected events.
- **Uncertainty and precautionary principle:** Human societies should recognise that they cannot be completely aware of the impacts that human actions can have on the present and future environment. For this reason, a precautionary principle should be adopted in the management of natural systems. The study of sustainable development requires a deep understanding of human-induced changes.
- **Intergenerational approach:** The inclusion of the value and preferences of the present and future generations should be taken into account in decisions related to the use of the natural environment.
- **Vulnerability and exposure:** A set of policies oriented to reduce the exposure and the vulnerability of the socio-economic environment should be established to

minimise the impact that extreme environmental shocks and disasters could have at both local and global levels.

Based on the definition reported above, Table B1 of Annex B provides a summary of the main links between socio-economic and environmental competitiveness and the targets of the SDGs.

Table B1 summarises the broad interrelationships between the SDGs and competitiveness. It also highlights that a specific target can be relevant for different competitiveness dimensions. For this reason, specific policies oriented to achieve a specific goal (or target) could have different impacts on the different competitiveness dimensions.

The improvements in social competitiveness that are related, for example, to the reduction of poverty and inequalities (as reported in Goal 1) would require an effective process of wealth creation with consequent impacts on the economy and the environment. The generation of additional income and jobs could, for example, be supported by the development of new business activities, government support and tax reduction. The resulting increased production could, however, generate negative impacts on the environment, with increasing pressures on resources availability and pollution. In a similar way, improvements in environmental competitiveness (as defined, for example, in Goals 13, 14 and 15) could reduce short-term profitability and would require the definition of new business models with consequent impacts on economic competitiveness and employment distribution.

There is also a large set of synergies between the different dimensions of competitiveness; some examples are described in Table 2.

Table 2. Synergies between SDGs and dimensions of sustainable competitiveness

Elements related to the SDGs	Economic competitiveness	Environmental competitiveness	Social competitiveness
Local governance	Transformative vision, good governance, transparency and accountability are key elements to promote investment and economic growth; effective state-business relations can create consensus around policies	High-quality and inclusive institutions can lead to green approaches and create conditions for behavioural and institutional changes	High quality and inclusive institutions are essential to provide health, education and social protection services
Investment in infrastructure	Appropriate infrastructure helps all firms to buy and sell goods and services and to raise productivity	Renewable energy plans and sustainable technologies are key elements to reduce pollution and to increase the long-term availability of natural resources	Infrastructure should be accessible (location and prices) to the poorest; access to water, roads and energy is fundamental to promote social competitiveness and equality
Human capital development	Education, health and skills development are important factors for labour productivity	Skills development and education are important for green jobs creation and for the promotion of sustainable behaviours	Skills and good health are important elements for social equality, stability and inclusiveness
Biodiversity protection	Land and natural resources are important for long-term productivity	Preserving natural capital can increase resilience and long-term availability	Possession of and/or access to land, good-quality water and biodiversity are important assets for the poorest and are fundamental elements to promote social stability and resilience
Green technology	Technologies are drivers of total factor productivity	Development of green technology can reduce the impacts on environment	Green technologies can increase the availability of resources and reduce the impacts generated, particularly on the poorest
Trade support	Linkages across firms and markets can increase demand, production and competitiveness	Market access for environmental goods and services (e.g. the ability to access new markets for solar panels)	Networks foster labour migration and enable the poorest to move to more productive employment; linkages between business activities can expand opportunities and alleviate poverty

Source: European Report on Development (2015).

Within this framework, coordinated policies would be needed, and analyses oriented to investigate the possible effects generated across dimensions could be useful to minimise the costs and to design effective implementation strategies.

4.1 Monitoring competitiveness in a SDGs framework

The definition of goals and targets is a fundamental step to place sustainability at the core of the international political agenda. The implementation strategies adopted by governments and institutions must, however, be supported by a clear set of indicators that can be used to monitor problems and progress. According to the definition provided by Hak et al. (2016), an indicator can be defined as an 'observable variable assumed to point to, or estimate, some other (usually unobservable) variable'. Within this context, indicators have been proven to be particularly useful for (1) policy formulation (identifying issues, setting goals and objectives, reflecting ideas and visions); (2) policy legitimisation; (3) policy implementation; (4) policy evaluation; and (5) policy change (UNSDSN, 2015).

Following an extensive consultation process, involving the Inter-agency Expert Group on SDG Indicators (IAEG-SDGs), a set of 230 indicators were proposed in March 2016 and approved in July 2016 by the UN Assembly. The main objective was to provide a consistent framework to monitor progress towards sustainability and to allow comparisons between different world areas.

The tables in Annex C summarise the main indicators that have been proposed for the different targets of the SDGs and provide a critical analysis of the definition of competitiveness described above. In particular, the first column of each table summarises the targets related to economic (Table C1), social (Table C2) and environmental (Table C3) competitiveness. Some parts have been highlighted in bold. These refer to the specific elements of the target that are connected to the concept of economic competitiveness (Table C1), social competitiveness (Table C2) and environmental competitiveness (Table C3). In the second column, the indicators proposed by the IAEG-SDGs are reported. The last column provides a short analysis of the relevance of the proposed indicator in relation to the target reported in the first column.

In general terms, it appears that most of the proposed indicators do not monitor all the elements reported in the targets. Most of them represent a general proxy, and in many cases a clear definition of what is meant by 'sustainable' is not provided. Particular difficulties also seem to exist in the monitoring of (1) market distortions; (2) the value of unpaid work; (3) equal rights and the accessibility of resources; and (4) the promotion of resilience and adaptive capacity. In addition, the use of a different number of

indicators for the different targets could generate an imbalance in terms of monitoring and applicability.

In relation to competitiveness, the indicators proposed provide only a general overview of how improvements in a specific target could generate effects on the overall level of competitiveness. However, to quantify the specific impacts that would be generated in a particular world area or sector, specific analyses and modelling exercises would be needed.

5 SDGs and competitiveness policies

As reported above, the multiple relationships and the possible synergies and trade-offs between the different goals and targets mean that it is difficult to identify a clear set of policies and monitoring mechanisms that could increase socio-economic and environmental competitiveness. In addition, a large set of structural elements, mainly associated with policies, governance and markets, could potentially affect the implementation of the SDGs and the related competitiveness improvements. Some examples are listed below.

- **Insufficient coordination:** Policies should be coordinated across the different dimensions of sustainable competitiveness. Investments in agriculture, for example, can be more effective if they are supported by investment in infrastructure, green technologies and human capital development.
- **Imperfect capital markets and insufficient financial support:** Credit constraints related to negative expectations, high transaction costs and uncertainty in evaluating the long-term profitability of socio-environmental sustainable projects could prevent the development of public and private initiatives that are oriented to implement some of the targets and goals established in the SDGs.
- **Lack of clear property rights and regulations:** Uncertain rules related to natural resource use, labour markets and taxation could reduce the overall level of investment, increase costs and result in an inefficient allocation of resources.
- **Imperfect competition:** The investment in research and development is generally reduced in situations of monopolies and collusive behaviours. Higher market prices and externalities are also expected to arise in a situation of imperfect competition.
- **Lack of governmental support** is an issue in projects that would require large upfront capital investment or in projects characterised by a low level of short-term profitability. Green technologies and the development of new business models that are oriented to increase the long-term sustainable competitiveness are examples of projects that would have to be supported by public investment and resources.
- **Political and macroeconomic instability** could reduce the overall level of investment and affect the implementation of long-term policies.
- **Inadequate skills and capacities:** Inadequate infrastructure, low levels of education and skill shortages can affect the development of competitiveness in both the national and international contexts.

By considering the elements described above, the identification of effective implementation strategies would have to be supported by coordinated policies able to take into account the multiple relationships between the different dimensions of sustainable competitiveness and to address problems related to governance and markets. In particular, according to the OECD (2016a), the following elements would have to be taken into account:

- the specific role that different actors, such as institutions, governments, international organisations, the private sector and non-governmental organisations, can play in the implementation of the SDGs and in the promotion of sustainable competitiveness;
- the possible interactions between different policy domains;
- the mutual relationships between goals and targets, the possible synergies and trade-offs, and the enabling and disabling conditions;
- the impacts that specific policies could generate in both the short and long term;
- the impacts that specific policies could generate at both local and global levels;
- the impacts that the interactions between public and private sectors could generate on the implementation of the SDGs and on competitiveness improvements.

In addition, by considering the multidimensional nature of the SDGs, a wide level of coordination should also be applied across different policy areas, for example (European Report on Development, 2015):

- capacity-building, e.g. regulatory, legal and administrative capacity;
- tax policies, e.g. tax rates and transfer pricing regimes;
- trade policies, e.g. trade facilitation measures and subsidies;
- financial policies, e.g. financial regulation, international banking rules and control mechanisms;
- science, technology and innovation policies, e.g. support for research and development, long-term investment and green technologies;
- industrial policies, e.g. small and medium-sized enterprise (SME) development policies, competition policies, market surveillance and socio-environmental standards;
- macroeconomic policies and financial regulation, e.g. fiscal, monetary and exchange rate policies oriented to increase stability and long-term development;
- legal policies on rights, transparency and accountability;
- education, health and social policies, e.g. training, migration policies, health care, social security, benefits and employment schemes;

- environmental policies, e.g. energy policies, carbon reduction strategies, pollution control, tax and subsidies.

During the last few decades, an extensive international debate has taken place in relation to the large set of interactions that need to be considered in the identification and implementation of policies. Some of the main concerns have arisen in relation to the possible interactions between socio-environmental policies and the ability to compete in international markets. Examples are provided by recent concerns related to climate change policies, such as the Kyoto Protocol, the EU Emissions Trading System (ETS) and the Californian cap-and-trade system. One of the main problems is related to the fact that it is difficult to evaluate the possible costs and benefits generated across different dimensions over a long period of time (Brunel and Levinson, 2013; Sato et al., 2014). In relation to this issue, the OECD (2016a) has recently established a specific Framework for Policy Coherence for Sustainable Development (PCSD), which aims to support governments in the identification and adoption of consistent and effective policies. The PCSD can be particularly useful to:

- identify policy coherence issues and improve the analysis of the interactions between SDGs and targets (analytical framework);
- align existing institutional mechanisms to the needs of the SDGs agenda (institutional framework);
- investigate the efficiency of the implementation mechanisms and increase the coordination between policies at different levels of management (monitoring framework).

A specific checklist has also been compiled by the OECD to support governments in the identification of effective institutional mechanisms. The main objective is to provide a screening tool to track policy coordination and check progress in the implementation of the SDGs. The main elements included in the OECD checklist and an overview of the aspects addressed are given in Table D1 of Annex D.

The large set of elements reported in Table D1 highlight how the identification of effective and coherent policies would require a multidimensional and interrelated perspective. Socio-economic and environmental factors would have to be taken into account and the potential synergies and trade-offs between them would have to be considered in both the short and long term.

5.1 Private and public sector interaction

The availability of financial support is a key element that would have to be considered to increase the effectiveness of policies for SDGs, as it is expected that a large amount of economic investment will be required to implement the goals and targets established in the Post-2015 Agenda. Public resources will not be sufficient and, for this reason, private investment is needed. To increase participation of the private sector, however, a clear set of benefits, for example increases in competitiveness and opportunities for economic growth, would have to be provided for the companies investing in the SDGs. In addition, the integration between public and private intervention, together with a clear coordination between different levels of management, are fundamental factors in the implementation of the SDGs.

To increase the effectiveness of financial investments and to support the identification of policies, the Development Co-operation Report, recently published by the OECD (2016b), stressed the importance of three main elements:

- New investment models should be developed, for example 'blended finance'. Based on cooperation between public and private finance, this decreases the risk of investment, reduces costs and capitalises on partnerships between actors, for example international organisations, development cooperation agencies and private enterprises.
- The socio-economic and environmental impacts of public and private investment will need to be measured and monitored. A common accountability framework will be useful to increase financial performance and reduce the overall costs of investment. A clear accounting framework, able to monitor the financial performances of investments and to identify the impacts on the socio-economic and environmental variables, is also required to increase the effectiveness of policies and private sector intervention.
- The private sector should be held to the same international transparency and accountability standards as the public sector. This will promote sustainable activities and increase the quality and quantity of the socio-economic and environmental benefits.

Nowadays, there are multiple the interactions between the private and public sectors. As described above, government decisions can influence business profitability and, at the same time, companies' behaviour can play an important role in the implementation of

the SDGs. The cooperation between the public and the private sector is crucial, as public funds can be spent in a strategic manner to mobilise private finance and encourage private business activity in smart and responsible investment. The key message is that investing in sustainable development has an enormous potential in terms of competitiveness gains. The outcome of the use of public investment instruments and vehicles to leverage private finance is the involvement of the private sector in responsible business opportunities.

According to Lucci (2012), there are three main areas for private sector contributions:

1. **Economic transformation and jobs:** The private sector is responsible for most economic activities and, for this reason, is one of the main factors in economic growth and job creation. As discussed above, these elements are fundamental to improve social stability and competitiveness and to increase the public revenues that can be used to finance investment for social services and infrastructures.
2. **Transparency and accountability:** The private sector could increase the publicly available information that is related to corporate behaviour and sustainability. This information can be useful to plan long-term sustainability policies and to increase consumer responsibilities for issues related to social and environmental pressures. A clear accountability framework will be needed to compare the performance of the different companies and to spread good practice among private companies.
3. **Delivery through global partnerships:** The private sector should be involved in the decision process for the selection and implementation of the SDGs. Since the private sector can be affected by policies, as well as making an important contribution to economic growth, sustainable practices and high-quality job creation, the involvement of the private sector is fundamental to the design of effective implementation strategies.

However, since the private sector includes a wide range of organisations with different sizes and characteristics, specific analysis is necessary to investigate how particular economic sectors and companies could be involved in the implementation of the SDGs. Responsible business opportunities can range from local green technologies to infrastructure, innovation and social services. These investments can meet business needs and expectations, making companies profitable and successful, as they can contribute to increase efficiency, profits and returns on capital in terms of reduced risk and portfolio diversification. Sustainable practices can increase revenue, reduce costs and improve the value of products and can have the essential function of enabling local firms to access new international markets, which will have a direct impact on competitiveness.

The Action 2020 report from the World Business Council for Sustainable Development (WBCSD, 2015) proposed a roadmap to increase business engagement by analysing how business activities can be aligned to the SDGs. In addition, the OECD (2016b) identified a set of recommendations for putting sustainable development at the core of competitive business models, namely:

- clarify the roles of each of the key actors;
- agree on common principles, standards, definitions, scopes and methodologies (some of them already exist, see example below, and should be adopted at international level);
- align financial and development goals;
- share risks and innovate to ensure the availability of public goods for the poorest and most vulnerable;
- create global and local enabling environments, ensuring coherence of policies across sectors and countries;
- cultivate new business models and promote research on what does and does not work;
- encourage responsible citizenship to provide checks and balances;
- increase transparency and accountability by monitoring and reporting in terms of international standards and indicators;
- establish platforms to enhance the sharing of knowledge and technical know-how;
- build evidence on impacts, outcomes, successes and failures.

Within the elements reported above, particular attention has recently been devoted to improving the transparency and consistency of the reporting mechanisms of private companies. A clear analysis of the main impacts generated across the economic, social and environmental dimensions can be useful to identify how the implementation of sustainable business practices can contribute to the achievement of the SDGs and to increased competitiveness.

Within this context, different corporate sustainability indices have been developed during the last few decades (for example the GCI, the GRI and the SCI).

These accountability frameworks have been useful in increasing the sustainability involvement of business activities and consumers. However, to make these accounting approaches useful in linking competitiveness and SDGs, the different indicators should be aligned with the indicators proposed by the IAEG-SDGs (SCI, 2015). For this reason, a clear recommendation for a more coordinated reporting framework has been specifically identified in a recent report about business engagement in the SDGs (PwC, 2016), which addresses the challenge and the new demand for assessment and

accountability. According to this report, although the exact nature and requirements of the SDGs might not yet be common knowledge throughout the business world, a large number of businesses seem to be aware that (1) the implementation of the SDGs could generate impacts on competitiveness, profitability and market share; and (ii) business activities can make an important contribution to the Post-2015 Agenda. According to PwC, 71% of these businesses are already making plans for how to respond to the SDGs; 52% are identifying the SDGs that are relevant to their business; 34% are identifying specific projects that will contribute to the SDGs; and 29% are already setting goals aligned with the SDGs that are relevant to their business. Furthermore, according to a recent opinion survey shared with PwC clients and UNGC and GRI members, more than 30% of companies plan to assess their impact in relation to some of the SDGs and indicators relevant to their business and business globally sees its contribution in terms of impact related mainly to SDG 8 (decent work and economic growth). SDG 13 (climate action) also receives much attention, as it is seen as an area where business can excel and grow; it is mainly cited by the chemical sector.

Since business activities are dependent on society for employees, customers, reputation and public support, their involvement in the implementation of the SDGs will also be a fundamental element in developing new models for growth. When companies align with the SDGs, more resilient business plans will arise as catalysts for innovation and opportunities. Overall, these are seen as business strategies that align with government ambitions and that can document and maintain company licenses to operate. The starting point for businesses is to understand strategically where operations could support governments in achieving the SDGs and to identify the opportunities for competitive advantage, using their knowledge to revise their strategy accordingly. A good basis for dialogue can be mapping how a company aligns with the SDGs , measuring its impact and implementing initiatives to improve. Indeed, many companies are looking for tools to enhance their contribution to the SDGs and to measure their contribution through data-driven documentation; only 13% of the companies surveyed have already identified an instrument for this purpose. Within this context, a clear reporting structure that is consistent with the framework of the SDGs will be useful to improve the efficiency of business strategies and to support the public sector in the identification of policies for implementation of the SDGs.

Overall, according to the PwC report, the successful engagement of industry with the SDGs should cover seven steps:

- 1 agree which SDGs the company and its value chain have an impact on, directly or indirectly, in the countries where it operates;

2 agree the methodology and measure the company impact across all these SDGs;

3 understand where the company has a positive or negative impact on each SDG;

4 understand the priorities of the governments under which the company operates;

5 prioritise reducing negative impacts and increasing positive impacts, according to what has to be achieved by the governments;

6 incorporate this knowledge into business planning and strategy;

7 document how the company impacts on the SDGs and its contribution;

According to the argument put forward in the previous section, different sources of finance could be used to achieve the SDGs and are indeed characterising the current landscape of development finance. A specific classification has recently been provided by the European Report on Development (2015). This summarises the possible domestic, international, public and private sources of finance. An overview of some of these sources is given in Table 3.

Table 3. Different sources of finance

Main actors involved		Motivations
Domestic public flows		
<i>Tax and other public revenues</i>	Raised mainly from domestic transactions (income and consumption), but also from corporate tax, international trade taxes and royalties from resource extraction	Strong focus on public goods and welfare, but also other drivers of resource use (equity, efficiency, growth)
<i>Domestic debt</i>	Government borrowing from international and domestic sources	Strong focus on public goods
International public sources		
<i>Official development assistance (ODA)</i>	Provided mainly by governments and government-owned development finance institutions; managed by a variety of actors, including governments, private contractors and non-governmental organisations (NGOs)	OECD Development Assistance Committee regulations require ODA to be focused on 'the promotion of the economic development and welfare'
<i>Other financial flows (OOF)</i>	Provided by a range of bodies, including export credit agencies, government-owned/-directed development finance institutions (DFIs), multilateral development banks and DFIs; managed largely by the private sector, but also by governments	Export credits largely motivated by providers' economic interests; in general, OOF are commercially oriented, but with public good/development characteristics
<i>South-south cooperation (SSC)</i>	Provided mainly by governments and government-owned/-directed institutions; managed largely by governments, but also by private sector and NGOs	SSC is based on the central idea of solidarity and engaging the countries involved in mutually beneficial relationships that promote self-reliance
Domestic private finance		
<i>Investment by private enterprises</i>	Private enterprises, investing retained profits or finance from other sources	Profit-oriented, often investment for the long run
<i>Domestic bank lending</i>	Provided by domestic financial institutions to domestic private sector	Profit-oriented, if not development-oriented, for domestic development banks
<i>Stock markets</i>	Financing from individuals and institutional investors channelled to listed companies	Profit-oriented

International private finance		
<i>Foreign direct investment (FDI)</i>	Provided and managed mainly by private companies with the aim of acquiring a long-term stake in a company in another country	Profit-oriented, often long-term investment
<i>Portfolio equity flows</i>	Provided mainly by institutional investors and investment funds, but also banks; managed by the private sector	Profit oriented, often of a short-term nature
<i>Commercial loans</i>	Provided by banks; 75% of long-term loans are to developing countries and are taken on by private institutions	Profit-oriented, short or long term
<i>Private development assistance (PDA)</i>	Provided by NGOs, foundations, faith-based organisations and corporations; managed mainly by non-state actors (e.g. NGOs and the private sector)	Charitable aims (e.g. welfare, social services and rights issues, but also some sector development)
<i>Remittances</i>	Provided by family members	To support families in home countries (e.g. through financing health, education, housing or business)

Note: Government revenues, PDA and ODA mainly focus on the social sector and social development. Commercially oriented flows mainly focus on certain types of infrastructure, the productive sector, the financial sector and cooperation with the private sector and, for this reason, they are more relevant to economic development.

Source: European Report on Development (2015).

According to the European Report on Development, the classification provided suggests some considerations of the different characteristics of each type of flow, the focus of each source of finance and the impact that each could have on the sustainable competitiveness of countries.

First, different sources are often intended to make a distinct, direct, sectoral contribution. PDA comes mainly from private philanthropic actors, including NGOs, foundations and corporations, and, together with ODA, contributes more directly to social development because of its intensive focus on sectors such as health and education. Commercially oriented flows are more directly relevant to economic development but can contribute, both directly and indirectly, to welfare outcomes because of their impact in terms of sustainable growth.

In addition, the effectiveness of flows can be undermined by their volatility, which can impact negatively on competitiveness, contributing to macroeconomic disruptions and

instability. This is particularly relevant for international private flows, the allocation of which is particularly concentrated.

In addition, the cyclical nature of financial flows deserves some consideration, as it can influence stability and growth, as pro-cyclical flows can exacerbate the effects of economic downturns and crises. This is particularly true for private financing sources, which are the most pro-cyclical flows.

Finally, as described in the previous section, the transparency and accountability of public and private resources are still open issues, as they are frequently based on voluntary regulatory regimes that have only weak enforcement mechanisms.

The integration between public and private intervention, together with clear coordination between different levels of management, is fundamental to the implementation of the SDGs. A clear accounting framework that is able to monitor the financial performances of investments and to identify the impacts generated on socio-economic and environmental variables is also required to increase the effectiveness of policies and private sector intervention.

7 Conclusions

The SDGs, which were adopted at the end of 2015 by UN Member States, propose a new global agenda for sustainable development. By including elements related to climate change, inequality, natural resource use, productivity and poverty reduction, the SDGs make it clear that sustainability cannot be achieved without integrated management of socio-economic and environmental variables. The multiple relationships between the different sustainability dimensions must be considered in the design of effective policies that are oriented to increase the level of well-being of present and future generations.

Within this context, an extensive international debate is currently taking place about the possible synergies and trade-offs between goals and targets. An improvement in a specific dimension can generate impacts on others, with a large set of possible cascading effects in both the short and long term. For this reason, implementation strategies and policies should be designed by taking a wide and participative approach. The involvement of stakeholders with different priorities and perspectives, together with the analysis of the possible interactions between the different sustainability dimensions, are fundamental elements for the achievement of the SDGs. Coordination between different levels of management and the involvement of public and private initiatives are also required to make the SDGs a global agenda based on an approach of shared responsibility.

Therefore, the main objective of the present report is to contribute to the international sustainability debate by analysing some of the possible interactions between the concept of sustainable competitiveness and the SDGs. Sustainable competitiveness is defined as 'the set of institutions, policies and factors that make a nation productive over the longer term while ensuring social and environmental sustainability', and is therefore closely related to many of the targets reported in the SDGs agenda. For this reason, the analysis of the possible interactions between these targets is fundamental to promote development based on sustainable prosperity.

During the last few years, a large set of indicators have been considered to support the implementation of effective and sustainable policies and to monitor progress towards the SDGs. In this report, the different indicators proposed by the IAEG-SDGs have been analysed in relation to the concept of sustainable competitiveness. In general terms, most of the indicators fail to provide a clear definition of what is meant by 'sustainable' or to identify the impacts that improvement in a specific target could generate within the different competitiveness dimensions. As indicators are only a proxy for the elements that will have to be measured, additional analysis will be required to investigate the

potential effects that the SDGs and policies could have on sustainable competitiveness. In addition, since the SDGs require the joint participation of different levels of management, as well as public and private sector intervention, the possible contributions that each of these could make in the achievement of the SDGs will need to be considered, together with the synergies and trade-offs between them.

The SDGs and the approach of globally shared responsibility that characterises their definition are very significant compared with earlier sustainability frameworks. However, further analysis will be needed to investigate how the different sustainability dimensions, actors and policies could interact to make the implementation strategies as efficient as possible.

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Abbreviations

CoG	centre of government
DFI	development finance institution
EITI	Extractive Industries Transparency Initiative
EU ETS	EU Emissions Trading System
FDI	foreign direct investment
GCI	Global Competitiveness Index
GRI	Global Reporting Initiative
IAEG-SDGs	Inter-agency Expert Group on SDG Indicators
MDGs	Millennium Development Goals
NGO	non-governmental organisation
ODA	official development assistance
OOF	other financial flows
OWG	Open Working Group
PCSD	Policy Coherence for Sustainable Development
PDA	private development assistance
SCI	Sustainable Competitiveness Index
SDGs	Sustainable Development Goals
SMEs	small and medium-sized enterprises
SSC	south-south cooperation

Annex A

Table A1. Sustainable Development Goals and targets

Goals	Targets
1. End poverty in all its forms everywhere	<p>1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day.</p> <p>1.2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions.</p> <p>1.3 Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable.</p> <p>1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance.</p> <p>1.5 By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.</p> <p>1.a Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions.</p> <p>1.b Create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions.</p>
2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture	<p>2.1 By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round.</p> <p>2.2 By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons.</p> <p>2.3 By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.</p> <p>2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.</p> <p>2.5 By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to</p>

3. Ensure healthy livers and promote well-being for all at all ages

and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed.

2.a Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular least developed countries.

2.b Correct and prevent trade restrictions and distortions in world agricultural markets, including through the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the Doha Development Round.

2.c Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility.

3.1 By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births.

3.2 By 2030, end preventable deaths of new-borns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births.

3.3 By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.

3.4 By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.

3.5 Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol.

3.6 By 2020, halve the number of global deaths and injuries from road traffic accidents.

3.7 By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes.

3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.

3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.

3.a Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate.

3.b Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for

<p>4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all</p>	<p>all.</p> <p>3.c Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States.</p> <p>3.d Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks.</p> <p>4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes.</p> <p>4.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education.</p> <p>4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university.</p> <p>4.4 By 2030, substantially increase the number of youths and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.</p> <p>4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations.</p> <p>4.6 By 2030, ensure that all youths and a substantial proportion of adults, both men and women, achieve literacy and numeracy.</p> <p>4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development.</p> <p>4.a Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all.</p> <p>4.b By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries.</p> <p>4.c By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States.</p>
<p>5. Achieve gender equality and empower all women and girls</p>	<p>5.1 End all forms of discrimination against all women and girls everywhere.</p> <p>5.2 Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation.</p> <p>5.3 Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation.</p> <p>5.4 Recognize and value unpaid care and domestic work through the</p>

	<p>provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate.</p> <p>5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life.</p> <p>5.6 Ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences.</p> <p>5.a Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws.</p> <p>5.b Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women.</p> <p>5.c Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels.</p>
<p>6. Ensure availability and sustainable management of water and sanitation for all</p>	<p>6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all.</p> <p>6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.</p> <p>6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.</p> <p>6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.</p> <p>6.5 By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate.</p> <p>6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.</p> <p>6.a By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies.</p> <p>6.b Support and strengthen the participation of local communities in improving water and sanitation management.</p>
<p>7. Ensure access to affordable, reliable, sustainable and modern energy for all</p>	<p>7.1 By 2030, ensure universal access to affordable, reliable and modern energy services.</p> <p>7.2 By 2030, increase substantially the share of renewable energy in the global energy mix.</p> <p>7.3 By 2030, double the global rate of improvement in energy efficiency.</p> <p>7.a By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy</p>

	<p>technology.</p> <p>7.b By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support.</p>
<p>8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all</p>	<p>8.1 Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries.</p> <p>8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors.</p> <p>8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.</p> <p>8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead.</p> <p>8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.</p> <p>8.6 By 2020, substantially reduce the proportion of youth not in employment, education or training.</p> <p>8.7 Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms.</p> <p>8.8 Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.</p> <p>8.9 By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products.</p> <p>8.10 Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all.</p> <p>8.a Increase Aid for Trade support for developing countries, in particular least developed countries, including through the Enhanced Integrated Framework for Trade-Related Technical Assistance to Least Developed Countries.</p> <p>8.b By 2020, develop and operationalize a global strategy for youth employment and implement the Global Jobs Pact of the International Labour Organization.</p>
<p>9. Build resilient infrastructure, promote inclusive and sustainable</p>	<p>9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.</p> <p>9.2 Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least</p>

<p>industrialization and foster innovation</p>	<p>developed countries.</p> <p>9.3 Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets.</p> <p>9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.</p> <p>9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending.</p> <p>9.a Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island developing States.</p> <p>9.b Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities.</p> <p>9.c Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020.</p>
<p>10. Reduce inequality within and among countries</p>	<p>10.1 By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average.</p> <p>10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.</p> <p>10.3 Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard.</p> <p>10.4 Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality.</p> <p>10.5 Improve the regulation and monitoring of global financial markets and institutions and strengthen the implementation of such regulations.</p> <p>10.6 Ensure enhanced representation and voice for developing countries in decision-making in global international economic and financial institutions in order to deliver more effective, credible, accountable and legitimate institutions.</p> <p>10.7 Facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies.</p> <p>10.a Implement the principle of special and differential treatment for developing countries, in particular least developed countries, in accordance with World Trade Organization agreements.</p> <p>10.b Encourage official development assistance and financial flows, including foreign direct investment, to States where the need is greatest, in particular least developed countries, African countries, small island developing States and landlocked developing countries, in accordance with their national plans and programmes.</p> <p>10.c By 2030, reduce to less than 3 per cent the transaction costs of</p>

<p>11. Make cities and human settlements inclusive, safe, resilient and sustainable</p>	<p>migrant remittances and eliminate remittance corridors with costs higher than 5 per cent.</p> <p>11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums.</p> <p>11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.</p> <p>11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries.</p> <p>11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage.</p> <p>11.5 By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations.</p> <p>11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.</p> <p>11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities.</p> <p>11.a Support positive economic, social and environmental links between urban, per-urban and rural areas by strengthening national and regional development planning.</p> <p>11.b By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels.</p> <p>11.c Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials.</p>
<p>12. Ensure sustainable consumption and production patterns</p>	<p>12.1 Implement the 10-year framework of programmes on sustainable consumption and production, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries.</p> <p>12.2 By 2030, achieve the sustainable management and efficient use of natural resources.</p> <p>12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.</p> <p>12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.</p> <p>12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.</p>

	<p>12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.</p> <p>12.7 Promote public procurement practices that are sustainable, in accordance with national policies and priorities.</p> <p>12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature.</p> <p>12.a Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production.</p> <p>12.b Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products.</p> <p>12.c Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities.</p>
<p>13. Take urgent action to combat climate change and its impacts</p>	<p>13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.</p> <p>13.2 Integrate climate change measures into national policies, strategies and planning.</p> <p>13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.</p> <p>13.a</p> <p>Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly \$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible.</p> <p>13.b</p> <p>Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.</p> <p>*Acknowledging that the United Nations Framework Convention on Climate Change is the primary international, intergovernmental forum for negotiating the global response to climate change.</p>
<p>14. Conserve and sustainably use the oceans, seas and marine resources for</p>	<p>14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.</p> <p>14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans.</p> <p>14.3 Minimize and address the impacts of ocean acidification, including</p>

sustainable development	<p>through enhanced scientific cooperation at all levels.</p> <p>14.4 By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics.</p> <p>14.5 By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information.</p> <p>14.6 By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation.</p> <p>14.7 By 2030, increase the economic benefits to Small Island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism.</p> <p>14.a Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries.</p> <p>14.b Provide access for small-scale artisanal fishers to marine resources and markets.</p> <p>14.c Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in UNCLOS, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of The Future We Want.</p>
15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity	<p>15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.</p> <p>15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.</p> <p>15.3 By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world.</p> <p>15.4 By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development.</p> <p>15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.</p> <p>15.6 Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed.</p> <p>15.7 Take urgent action to end poaching and trafficking of protected</p>

loss	<p>species of flora and fauna and address both demand and supply of illegal wildlife products.</p> <p>15.8 By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species.</p> <p>15.9 By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts.</p> <p>15.a Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems.</p> <p>15.b Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation.</p> <p>15.c Enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities.</p>
16. Promote peaceful and inclusive societies for sustainable development , provide access to justice for all and build effective, accountable and inclusive institutions at all levels	<p>16.1 Significantly reduce all forms of violence and related death rates everywhere.</p> <p>16.2 End abuse, exploitation, trafficking and all forms of violence against and torture of children.</p> <p>16.3 Promote the rule of law at the national and international levels and ensure equal access to justice for all.</p> <p>16.4 By 2030, significantly reduce illicit financial and arms flows, strengthen the recovery and return of stolen assets and combat all forms of organized crime.</p> <p>16.5 Substantially reduce corruption and bribery in all their forms.</p> <p>16.6 Develop effective, accountable and transparent institutions at all levels.</p> <p>16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels.</p> <p>16.8 Broaden and strengthen the participation of developing countries in the institutions of global governance.</p> <p>16.9 By 2030, provide legal identity for all, including birth registration.</p> <p>16.10 Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements.</p> <p>16.a Strengthen relevant national institutions, including through international cooperation, for building capacity at all levels, in particular in developing countries, to prevent violence and combat terrorism and crime.</p> <p>16.b Promote and enforce non-discriminatory laws and policies for sustainable development.</p>
17. Strengthen the means of implementation and revitalize the global	<p>Finance</p> <p>17.1 Strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection.</p> <p>17.2 Developed countries to implement fully their official development assistance commitments, including the commitment by many developed countries to achieve the target of 0.7 per cent of ODA/GNI to developing countries and 0.15 to 0.20 per cent of ODA/GNI to least developed</p>

partnership
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countries; ODA providers are encouraged to consider setting a target to provide at least 0.20 per cent of ODA/GNI to least developed countries.

17.3 Mobilize additional financial resources for developing countries from multiple sources.

17.4 Assist developing countries in attaining long-term debt sustainability through coordinated policies aimed at fostering debt financing, debt relief and debt restructuring, as appropriate, and address the external debt of highly indebted poor countries to reduce debt distress.

17.5 Adopt and implement investment promotion regimes for least developed countries.

Technology

17.6 Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism.

17.7 Promote the development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favourable terms, including on concessional and preferential terms, as mutually agreed.

17.8 Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology.

Capacity-Building

17.9 Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the sustainable development goals, including through North-South, South-South and triangular cooperation.

Trade

17.10 Promote a universal, rules-based, open, non-discriminatory and equitable multilateral trading system under the World Trade Organization, including through the conclusion of negotiations under its Doha Development Agenda.

17.11 Significantly increase the exports of developing countries, in particular with a view to doubling the least developed countries' share of global exports by 2020.

17.12 Realize timely implementation of duty-free and quota-free market access on a lasting basis for all least developed countries, consistent with World Trade Organization decisions, including by ensuring that preferential rules of origin applicable to imports from least developed countries are transparent and simple, and contribute to facilitating market access.

Systemic issues

Policy and Institutional coherence

17.13 Enhance global macroeconomic stability, including through policy coordination and policy coherence.

17.14 Enhance policy coherence for sustainable development.

17.15 Respect each country's policy space and leadership to establish and implement policies for poverty eradication and sustainable development.

Multi-stakeholder partnerships

17.16 Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries.

17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships.

Data, monitoring and accountability

17.18 By 2020, enhance capacity-building support to developing countries, including for least developed countries and small island developing States, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts.

17.19 By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries.

Annex B

Table B1. Sustainable Development Goals and sustainable competitiveness

SDGs	Economic competitiveness	Social competitiveness	Environmental competitiveness
Goal 1. End poverty in all its forms everywhere	Target: 1.4	Targets: 1.3; 1.4; 1.5; 1.b	Target: 1.5
Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture	Targets: 2.3; 2.4; 2.a; 2.b; 2.c	Target: 2.3	Target: 2.4
Goal 3. Ensure healthy lives and promote well-being for all at all ages	Target: 3.c	Targets: 3.4; 3.8; 3.d	Target: 3.9
Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all		Targets: 4.1; 4.2; 4.3; 4.4; 4.5; 4.7	
Goal 5. Achieve gender equality and empower all women and girls	Targets: 5.4; 5.a	Targets: 5.4; 5.5; 5.c	
Goal 6. Ensure availability and sustainable management of water and sanitation for all			Targets: 6.3; 6.5; 6.6
Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all	Target: 7.a		Targets: 7.2; 7.3
Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	Targets: 8.1; 8.2; 8.3; 8.10	Targets: 8.3; 8.5; 8.9	Targets: 8.4; 8.9
Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	Targets: 9.1; 9.3	Targets: 9.1; 9.2	Target: 9.4
Goal 10. Reduce inequality within and among countries	Targets: 10.5; 10.b	Targets: 10.2; 10.3; 10.4	
Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable		Targets: 11.1; 11.2; 11.3; 11.4	Targets: 11.4; 11.6; 11.b
Goal 12. Ensure sustainable consumption and production patterns	Target: 12.c		Targets: 12.2; 12.3; 12.4; 12.5; 12.6; 12.7

Goal 13. Take urgent action to combat climate change and its impacts			Targets: 13.1; 13.2; 13.3
Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development	Targets: 14.6; 14.7; 14.b		Targets: 14.1; 14.2; 14.3; 14.4; 14.5
Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	Targets: 15.7; 15.b	Targets: 15.6; 15.9	Targets: 15.1; 15.2; 15.3; 15.4; 15.5
Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	Targets: 16.5; 16.6	Targets: 16.1; 16.3; 16.7; 16.b	
Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development	All targets	All targets	All targets

Annex C

Table C.1. Economic competitiveness: relevance of the indicators

Economic competitiveness targets	Indicators proposed	Relevance
1.4. By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance.	1.4.2 Proportion of total adult population with secure tenure rights to land, with legally recognized documentation and who perceive their rights to land as secure, by sex and by type of tenure.	The indicator is designed to monitor the ownership of land. Equal rights and access to economic and natural resources, technology and financial services are not included in the analysis.
2.3. By 2030, double the agricultural productivity and income of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.	<p>2.3.1 Volume of production per labour unit by classes of farming/pastoral/forestry enterprise size.</p> <p>2.3.2 Average income of small-scale food producers, by sex and indigenous status.</p>	The indicators proposed are designed to monitor agricultural productivity and income. Financial services, equal access to land, productive resources and markets are not included in the analysis. Opportunities for value addition and non-farm employment are also not included.
2.4. By 2030, ensure sustainable food production system and implement resilient agricultural practices that increase productivity and production, that helps maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.	2.4.1 Proportion of agricultural area under productive and sustainable agriculture.	The indicator proposed is designed to monitor the agricultural area under productive and sustainable agriculture. A definition of productive and sustainable agriculture should be provided and possible trade-offs between productivity and sustainability should be considered. Resilience and ability to adapt are not included in the analysis.
2.a Increase investment, including through enhanced international cooperation, in	2.a.1 The agriculture orientation index for government expenditures.	The indicators are designed to monitor investments in

<p>rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular least developed countries.</p>	<p>2.a.2 Total official flows (official development assistance plus other official flows) to the agriculture.</p>	<p>agricultural activities. Indicators oriented to quantify the effectiveness of investments in relation to agricultural productivity would need to be added.</p>
<p>2.b. Correct and prevent trade restrictions and distortion in world agricultural markets, including through the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the Doha Development Round.</p>	<p>2.b.1 Producer Support Estimate. 2.b.2 Agricultural export subsidies.</p>	<p>The indicators are designed to quantify subsidies for export. Trade restrictions and distortion are not included in the analysis.</p>
<p>2.c. Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility.</p>	<p>2.c.1 Indicator of food price anomalies.</p>	<p>The indicator is designed to identify anomalies in food prices. However, clear definitions of food price anomalies should be provided. Access to market information is not included in the analysis</p>
<p>3.c. Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States.</p>	<p>3.c.1 Health worker density and distribution.</p>	<p>The indicator is designed to monitor health worker density and distribution. Time-series analyses can provide useful information to monitor the target.</p>
<p>5.4. Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate.</p>	<p>5.4.1 Proportion of time spent on unpaid domestic and care work, by sex, age and location.</p>	<p>The indicator is designed to monitor the time spent on unpaid domestic and care work. The indicator proposed will not provide information about recognition or value.</p>
<p>5.a. Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land</p>	<p>5.a.1 (a) Proportion of total agricultural production with ownership or secure rights over agricultural land, by sex; and (b)</p>	<p>The indicators proposed are able to monitor the access and ownership of land. Equal rights to</p>

<p>and other forms of property, financial services, inheritance and natural resources, in accordance with national laws.</p>	<p>share of women among owners of rights-bearers of agricultural land, by type of tenure.</p> <p>5.a.2 Proportion of countries where the legal framework (including customary law) guarantees women's equal rights to land ownership and/or control.</p>	<p>economic resources and financial services are not included in the analysis.</p>
<p>7.a. By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology and promote investment in energy infrastructure and clean energy technology.</p>	<p>7.a.1 Mobilized amount of United States dollars per year starting in 2020 accountable towards the \$100 billion commitment.</p>	<p>The indicator proposed can be useful to monitor the target. An analysis of investment effectiveness should also be included.</p>
<p>8.1. Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries.</p>	<p>8.1.1 Annual growth rate of real GDP per capita.</p>	<p>The indicator proposed is designed to quantify per capita economic growth and it is suitable to monitor the target.</p>
<p>8.2. Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labor-intensive sectors.</p>	<p>8.2.1 Annual growth rate of real GDP per employed person.</p>	<p>The indicator proposed is able to monitor productivity but will not provide information about diversification, technological upgrading or innovation.</p>
<p>8.3. Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation and encourage the formalization of growth of micro-small and medium sized enterprises, including through access to financial services.</p>	<p>8.3.1 Proportion of informal employment in non-agriculture employment, by sex.</p>	<p>The indicator proposed does not seem to be suitable to monitor the target. It is designed to quantify informal employment in non-agriculture employment. A definition of informal employment should be provided and an analysis of micro-, small- and medium-sized enterprises should be added, together with an analysis of access to financial services.</p>

<p>8.10. Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all.</p>	<p>8.10.1 Number of commercial bank branches and automated teller machines (ATMs) per 100,000 adults.</p> <p>8.10.2 Proportion of adults (15 years and older) with an account at a bank or other financial institution or with a mobile-money-service provider.</p>	<p>The indicator proposed and the related time-series analyses are useful to monitor the target.</p>
<p>9.1. Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.</p>	<p>9.1.1 Proportion of the rural population who live within 2 km of an all-season road.</p> <p>9.1.2 Passenger and freight volumes, by mode of transport.</p>	<p>The indicator is designed to monitor transport infrastructure. Other types of infrastructure are not included in the analysis.</p>
<p>9.3. Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets.</p>	<p>9.3.1 Proportion of small-scale industries in total industry value added.</p> <p>9.3.2 Proportion of small-scale industries with a loan or line of credit.</p>	<p>The indicator proposed is able to quantify the quantity of credit but is will not provide information about affordability or difficulties in obtaining credit. Integration into value chains and markets are not included in the analysis.</p> <p>Indicator 9.3.1 is not related to credit. It provides information concerning the quantity of small-scale industries in total industry value added. It does not seem to be relevant to monitor the target.</p>
<p>10.5. Improve regulation and monitoring of global financial markets and institutions and strengthen the implementation of such regulations.</p>	<p>10.5.1 Financial Soundness Indicators.</p>	<p>The indicator proposed is useful to monitor the target.</p>
<p>10.b. Encourage official development assistance and financial flows, including foreign direct investment, to States where the need is</p>	<p>10.b.1 Total resource flows for development, by recipient and donor countries and type of flow (e.g. official development assistance, foreign direct</p>	<p>The indicator proposed is useful to monitor the target.</p>

greatest, in particular least developed countries, African countries, small island developing States and landlocked developing countries, in accordance with their national plans and programmes.

12.c. Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protect the poor and the affected communities.

14.6. By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation.

14.7. By 2030, increase the economic benefits to Small Island developing States and least developed countries from the sustainable use of marine resources, including through sustainable

investment and other flows).

12.c.1 Amount of fossil-fuel subsidies per unit of GDP (production and consumption) and as a proportion of total national expenditure on fossil fuels.

The indicator quantifies the fossil-fuel subsidies but will not monitor efficiency or market distortions.

14.6.1 Progress by countries in the degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing.

The indicator is designed to monitor illegal and unregulated fishing activities but will not monitor fishery subsidies and impacts on the market, or overfishing.

14.7.1 Sustainable fisheries as a percentage of GDP in small island developing States, least developed countries and all countries.

The indicator proposed should provide a specific definition of sustainable fisheries. The indicator will not quantify the economic benefits

management of fisheries, aquaculture and tourism.		provided.
14.b. Provide access for small-scale artisan fishers to marine resources and markets.	14.b.1 Progress by countries in the degree of application of a legal/regulatory/policy/institutional framework which recognizes and protects access rights for small-scale fisheries	The indicator is relevant to monitor the target.
15.7. Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products.	15.7.1 Proportion of traded wildlife that was poached or illicitly trafficked.	The indicator is relevant to monitor the target.
15.b. Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation.	15.b.1 Official development assistance and public expenditure on conservation and sustainable use of biodiversity and ecosystems.	The indicator is relevant to monitor the target but a specific focus on forest management should be added.
16.5. Substantially reduce corruption and bribery in all their forms.	16.5.1 Proportion of persons who had at least one contact with a public official and who paid a bribe to a public official, or were asked for a bribe by those public officials, during the previous 12 months.	The indicator is relevant to monitor the target.
16.6. Develop effective, accountable and transparent institutions at all levels.	16.6.1 Primary government expenditures as a proportion of original approved budget, by sector (or by budget codes or similar).	The indicator is relevant to monitor the target. Transparency and accessibility should also be monitored.
17.1 – 17.19	17.1.1 – 17.19.2	The indicators are suitable to monitor the targets.

Table C2. Social competitiveness: relevance of the indicators

Social Competitiveness Targets	Indicators proposed	Relevance
1.3. Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable.	1.3.1 Proportion of population covered by social protection floors/systems, by sex, distinguishing children, unemployed persons, older persons, persons with disabilities, pregnant women, newborns, work-injury victims and the poor and the vulnerable.	The indicator is relevant to monitor the target.
1.4. By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance.	1.4.1 Proportion of population living in households with access to basic services. 1.4.2 Proportion of total adult population with secure tenure rights to land, with legally recognized documentation and who perceive their rights to land as secure, by sex and by type of tenure.	The indicator is designed to monitor the access to basic services and tenure rights to land. Equal rights to other economic resources, new technology, financial services and microfinance are not included in the analysis.
1.5. By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.	1.5.1 Number of deaths, missing persons and persons affected by disaster per 100,000 people. 1.5.3 Number of countries with national and local disaster risk reduction strategies.	The indicator proposed and the related time-series analyses are able to monitor the target.
1.b. Create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions.	1.b.1 Proportion of government recurrent and capital spending to sectors that disproportionately benefit women, the poor and vulnerable groups.	The indicator is able to monitor the target.
2.3. By 2030, double the agricultural productivity and income of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and	2.3.2 Average income of small-scale food producers, by sex and indigenous status.	The indicator proposed is able to monitor variations in the average level of income but will not provide information related to income

<p>fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.</p>		<p>distribution or equal access to resources.</p>
<p>3.4. By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.</p>	<p>3.4.1 Mortality rate attributed to cardiovascular disease, cancer, diabetes or chronic respiratory disease.</p> <p>3.4.2 Suicide mortality rate.</p>	<p>The indicators are able to monitor the target.</p>
<p>3.8. Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.</p>	<p>3.8.1 Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population).</p>	<p>The indicator is able to monitor the target.</p>
<p>3.d. Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks.</p>	<p>3.d.1 International Health Regulation (IHR) capacity and health emergency preparedness.</p>	<p>The indicator is able to monitor the target.</p>
<p>4.1. By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes.</p>	<p>4.1.1 Proportion of children and young people: (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex.</p>	<p>The indicator is able to monitor the target.</p>
<p>4.2. By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education.</p>	<p>4.2.1 Proportion of children under 5 years of age who are developmentally on track in health, learning and psychosocial well-being by sex.</p> <p>4.2.2 Participation rate in organized learning (one year before the official primary</p>	<p>The indicator is able to monitor the target.</p>

	entry age), by sex.	
4.3. By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university.	4.3.1 Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex.	The indicator is able to monitor the target.
4.4. By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship	4.4.1 Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill.	The indicator and the related time-series analyses are able to monitor the target.
4.5. By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including person with disabilities, indigenous peoples and children in vulnerable situations.	4.5.1 Parity indices (female/male, rural/urban, bottom/top wealth quintile and others such as disability status, indigenous peoples and conflict-affected, as data become available) for all education indicators on this list that can be disaggregated.	The indicator is able to monitor the target.
4.7. By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development.	4.7.1 Extent to which (i) global citizenship education and (ii) education for sustainable development. Including gender equality and human rights, are mainstreamed at all levels in: (a) national education policies, (b) curricula, (c) teacher education and (d) student assessment.	The indicator is able to monitor the target.
5.4. Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate.	5.4.1 Proportion of time spent on unpaid domestic and care work, by sex, age and location.	The indicator is designed to monitor the time spent on unpaid domestic and care work. It will not provide information about recognition or value.
5.5. Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public	5.5.1 Proportion of seats held by women in national parliaments and local governments.	The indicator is able to monitor the target.

life.

5.c. Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels.

8.3. Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation and encourage the formalization of growth of micro-small and medium sized enterprises, including through access to financial services.

8.5. By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.

8.8. Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.

5.c.1 Proportion of countries with systems to track and make public allocations for gender equality and women's empowerment.

The indicator provides information about countries that track gender equality. Specific analysis should be performed to monitor the promotion of gender equality. Consistency between the track systems used by countries is also required to compare data and trends.

8.3.1 Proportion of informal employment in on-agriculture employment, by sex.

The indicator proposed does not seem to be able to monitor the target. It is designed to quantify informal employment in non-agriculture employment. A definition of informal employment should be provided and analysis on micro-, small- and medium-sized enterprises should be included, together with access to financial services.

8.5.1 Average hourly earnings of female and male employees, by occupation, age and person with disabilities.

The indicator is able to monitor equal pay but it will not define or provide information related to decent work.

8.8.1 Frequency rates of fatal and non-fatal occupational injuries, by sex and migrant status

The indicators are able to monitor the target.

8.8.2 Increase in national compliance of labour rights (freedom of association and collective bargaining) based on International Labour Organization (ILO) textual sources and national legislation, by sex and migrant status.

<p>9.1. Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.</p> <p>9.2. Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product in line with national circumstances, and double its share in least developed countries.</p> <p>10.2. By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.</p> <p>10.3. Endure equal opportunity and reduce inequalities of outcome, including eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard.</p> <p>10.4. Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality.</p> <p>11.1. By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums.</p> <p>11.2. By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety,</p>	<p>9.1.1 Proportion of the rural population who live within 2 km of an all-season road.</p>	<p>The indicator is designed to monitor transport infrastructure. Other types of infrastructure are not included in the analysis. In addition, the indicators will not analyse how infrastructure can be related to human well-being.</p>
	<p>9.1.2 Passenger and freight volumes, by mode of transport.</p>	
	<p>9.2.1 Manufacturing value added as proportion of GDP per capita.</p>	<p>The indicator is designed to quantify value added but will not provide information about inclusiveness and sustainability.</p>
	<p>10.2.1 Proportion of people living below 50% of median income, by age, sex and persons with disabilities.</p>	<p>The indicator is designed to quantify income distribution but will not monitor social, economic and political inclusion.</p>
	<p>10.3.1 Proportion of the population reporting having personally felt discriminated against or harassed within the previous 12 months on the basis of a ground of discrimination prohibited under international human rights law.</p>	<p>The indicator is focused on discrimination but will not track the promotion of equal opportunities.</p>
	<p>10.4.1 Labour share of GDP, comprising wages and social protection transfers.</p>	<p>The indicator is suitable to monitor the target.</p>
	<p>11.1.1 Proportion of urban population living in slums, informal settlements or inadequate housing.</p>	<p>The indicator is suitable to monitor the target.</p>
	<p>11.2.1 Proportion of population that has convenient access to public transport, by sex, age and</p>	<p>The indicator is suitable to monitor the target.</p>

notably by expanding public transport, with special attention to those in vulnerable situations, women, children, persons with disabilities and older persons.	persons with disabilities.	
11.3. By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries.	<p>11.3.1 Ratio of land consumption rate to population growth rate.</p> <p>11.3.2 Proportion of cities with a direct participation structure of civil society in urban planning and management that operate regularly and democratically.</p>	<p>The indicator is able to monitor participation and land consumption rate. It will not provide information about sustainable urbanisation.</p>
11.4. Strengthen efforts to protect and safeguard the world's cultural and natural heritage.	<p>11.4.1 Total expenditure (public and private) per capita spent on the preservation, protection and conservation of all cultural and natural heritage, by type of heritage (cultural, natural, mixed and World Heritage Centre designation), level of government (national, regional and local/municipal), type of expenditure (operating expenditure/investment) and type of private funding (donations in kind, private non-profit sector and sponsorship).</p>	<p>The indicator is able to monitor the target.</p>
15.6. Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed.	<p>15.6.1 Number of countries that have adopted legislative, administrative and policy frameworks to ensure fair and equitable sharing of benefits.</p>	<p>The indicator is able to monitor the target. To ensure comparability, however, common policy frameworks should be adopted by all countries.</p>
15.9. By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts.	<p>15.9.1 Progress towards national targets established in accordance with Aichi Biodiversity Target 2 of the Strategic Plan for Biodiversity 2011-2020.</p>	<p>The indicator is able to monitor the target.</p>
16.1. Significantly reduce all forms of violence and related death rates everywhere.	<p>16.1.1 Number of victims of international homicide per 100,000 population, by sex</p>	<p>The indicator is able to monitor the target.</p>

	<p>and age.</p> <p>16.1.2 Conflict-related death per 100,000 population, by sex, age and cause.</p> <p>16.1.3 Proportion of population subject to physical, psychological or sexual violence in the previous 12 months.</p> <p>16.1.4 Proportion of population that feel safe walking alone around the area they live.</p>
<p>16.3. Promote the rule of law at the national and international levels and ensure equal access to justice for all.</p>	<p>16.3.1 Proportion of victims of violence in the previous 12 months who reported their victimization to competent authorities or other officially recognized conflict resolution mechanism.</p> <p>The indicator is designed to monitor the number of victims who reported victimisation but will not provide information about equal access to justice for all.</p>
<p>16.7. Ensure responsive, inclusive, participatory and representative decision-making at all levels.</p>	<p>16.7.1 Proportion of positions (by sex, age, persons with disabilities and population groups) in public institutions (national and local legislatures, public service and judiciary) compared to national distributions.</p> <p>The indicator and the related time-series analyses are able to monitor the target.</p>
<p>16.b. Promote and enforce non-discriminatory laws and policies for sustainable development.</p>	<p>16.b.1 Proportion of population reporting having personally felt discriminated against or harassed in the previous 12 months on the basis of a ground of discrimination prohibited under international human rights law.</p> <p>The indicator is designed to quantify the number of people reporting discrimination but will not provide information related to non-discriminatory laws.</p>
<p>17.1 – 17.19</p>	<p>17.1.1 – 17.19.2</p> <p>The indicators are suitable to monitor the targets.</p>

Table C3. Environmental competitiveness: relevance of the indicators

Environmental Targets	Competitiveness	Indicators proposed	Relevance
<p>1.5. By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.</p>		<p>1.5.1 Number of deaths, missing persons and persons affected by disaster per 100,000 people.</p>	<p>The indicators are suitable to monitor the targets. However, they will not monitor whether or not the disaster risk reduction strategies reduce the exposure or the vulnerability of populations.</p>
		<p>1.5.2 Direct disaster economic loss in relation to global gross domestic product (GDP).</p> <p>1.5.3 Number of countries with national and local disaster risk reduction strategies.</p>	
<p>2.4. By 2030, ensure sustainable food production system and implement resilient agricultural practices that increase productivity and production, that helps maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.</p>		<p>2.4.1 Proportion of agricultural area under productive and sustainable agriculture.</p>	<p>The indicator proposed is designed to monitor the agricultural area under productive and sustainable agriculture. A definition of productive and sustainable agriculture should be provided and possible trade-offs between productivity and sustainability should be included in the analysis. Resilience and ability to adapt are not included in the analysis.</p>
<p>3.9. By 2030, substantially reduce the number of deaths and illness from hazardous chemical and air, water and soil pollution and contamination.</p>		<p>3.9.1 Mortality rate attributed to household and ambient air pollution.</p>	<p>The indicators are able to monitor the target.</p>
		<p>3.9.2 Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services).</p> <p>3.9.3 Mortality rate attributed to unintentional poisoning.</p>	
<p>6.3. By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and</p>		<p>6.3.1 Proportion of wastewater safely treated.</p> <p>6.3.2 Proportion of bodies</p>	<p>The indicators are able to monitor water quality and pollution but will not provide information about</p>

<p>materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.</p>	<p>of water with good ambient water quality. recycling and reuse.</p>
<p>6.5. By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate.</p>	<p>6.5.1 Degree of integrated water resources management implementation (0-100). The indicators are able to monitor the target.</p> <p>6.5.2 Proportion of transboundary basin area with an operational arrangement for water cooperation.</p>
<p>6.6. By 2020, protect and restore water-related ecosystems, including mountain, forests, wetlands, rivers aquifers and lakes.</p>	<p>6.6.1 Change in the extent of water-related ecosystems over time. The indicator is able to monitor the target.</p>
<p>7.2. By 2030, increase substantially the share of renewable energy in the global energy mix.</p>	<p>7.2.1 Renewable energy share in the total final energy consumption. The indicator is able to monitor the target.</p>
<p>7.3. By 2030, double the global rate of improvement in energy efficiency.</p>	<p>7.3.1 Energy intensity measured in terms of primary energy and GDP. The indicator is suitable to monitor the target but analysis on the overall energy consumption should be included.</p>
<p>8.4. Improve progressively, through 2030, global resource efficiency in consumption and production and endeavor to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead.</p>	<p>8.4.1 Material footprint, material footprint per capita, and material footprint per GDP. The indicator is suitable to monitor the target. However, material footprint should be complemented by analysis related to other footprint categories, for example water, energy, land and emissions.</p>
<p>8.9. By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products.</p>	<p>8.9.1 Tourism direct GDP as a proportion of total GDP and in growth rate. The indicator is suitable to quantify the economic contribution of tourism but not its sustainability.</p>
<p>9.4. By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater</p>	<p>9.4.1 CO₂ emission per unit of value added. The indicator is focused on CO₂ emissions. Other natural resources should be included in the analysis.</p>

<p>adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.</p>	
<p>11.4. Strengthen efforts to protect and safeguard the world's cultural and natural heritage.</p>	<p>11.4.1 Total expenditure (public and private) per capita spent on the preservation, protection and conservation of all cultural and natural heritage, by type of heritage (cultural, natural, mixed and World Heritage Centre designation), level of government (national, regional and local/municipal), type of expenditure (operating expenditure/investment) and type of private funding (donations in kind, private non-profit sector and sponsorship).</p> <p>The indicator is suitable to monitor the target.</p>
<p>11.6. By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.</p>	<p>11.6.1 Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities.</p> <p>11.6.2 Annual mean levels of fine particulate matter (e.g. PM2.5 and PM10) in cities (population weighted).</p> <p>The indicators are suitable to monitor the target.</p>
<p>11.b. By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels.</p>	<p>11.b.1 Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015-2030.</p> <p>11.b.2 Number of countries with national and local disaster risk reduction strategies.</p> <p>The indicators are suitable to monitor the targets. However, they will not monitor whether or not the disaster risk reduction strategies will reduce the exposure and the vulnerability of populations.</p>
<p>12.2. By 2030, achieve the</p>	<p>12.2.1 Number of countries</p> <p>The indicators are</p>

sustainable management and efficient use of natural resources.	with sustainable consumption and production (SCP) national action plans or SCP mainstreamed as a priority or a target into national policies.	suitable to monitor the targets. However, they will not monitor whether or not the action plans will improve sustainability and efficient use of natural resources.
12.3. By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.	12.3.1 Global food loss index.	The indicator seems to be suitable to monitor the target.
12.4. By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.	12.4.1 Number of parties to international multilateral environmental agreements on hazardous waste, and other chemical that meet their commitments and obligations in transmitting information as required by each relevant agreement. 12.4.2 Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment.	The indicators are suitable to monitor the target.
12.5. By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.	12.5.1 National recycling rate, tons of material recycled.	The indicator is suitable to monitor the target.
12.6. Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.	12.6.1 Number of companies publishing sustainability reports.	The indicator is designed to monitor accessibility to information but will not provide information about sustainable practices. Common metrics for sustainability analyses and reports should be adopted by companies.
12.7. Promote public procurement practices that are sustainable, in accordance with national policies and priorities.	12.7.1 Number of countries implementing sustainable public procurement policies and action plans.	The indicator is suitable to monitor the target.
13.1. Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.	13.1.1 Number of countries with national and local disaster risk reduction strategies.	The indicator provides information about disaster risk reduction strategies but will not

13.2. Integrate climate change measures into national policies, strategies and planning.	13.1.2 Number of deaths, missing persons and persons affected by disaster per 100,000 people.	fully evaluate the effectiveness of policies.
	13.2.1 Number of countries that have communicated the establishment or operationalization of an integrated policy/strategy/plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other).	The indicator is able to monitor the target.
13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.	13.3.1 Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula.	The indicator is able to monitor the target.
	13.3.2 Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer, and development actions.	
14.1. By 2025, prevent and significantly reduce marine pollution of all kinds and in particular from land-based activities, including marine debris and nutrient pollution.	14.1.1 Index of coastal eutrophication and floating plastic debris density.	The indicator is suitable to monitor the target.
14.2. By 2020, sustainably manage and protect marine and coastal ecosystem to avoid significant adverse impacts, including by	14.2.1 Proportion of national exclusive economic zones managed using ecosystem-based	The indicator is suitable to monitor the target but will not provide information about

<p>strengthening their resilience and take action for their restoration in order to achieve healthy and productive oceans.</p>	<p>approaches.</p>	<p>resilience.</p>
<p>14.3. Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels.</p>	<p>14.3.1 Average marine acidity (pH) measured at agreed suite of representative sampling stations.</p>	<p>The indicator is suitable to monitor the target.</p>
<p>14.4. By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science – based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics.</p>	<p>14.4.1 Proportion of fish stocks within biologically sustainable levels.</p>	<p>The indicator is suitable to monitor fish stocks but will not provide information related to illegal, unreported and unregulated fishing.</p>
<p>14.5. By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information.</p>	<p>14.5.1 Coverage of protected areas in relation to marine areas.</p>	<p>The indicator is suitable to monitor the target.</p>
<p>15.1. By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.</p>	<p>15.1.1 Forest area as a proportion of total land area.</p>	<p>The indicators are suitable to monitor the target.</p>
	<p>15.1.2 Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type.</p>	
<p>15.2. By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.</p>	<p>15.2.1 Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type.</p>	<p>The indicator is suitable to monitor the target but specific analyses should be devoted to forest.</p>
<p>15.3. By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to</p>	<p>15.3.1 Proportion of land that is degraded over total land area.</p>	<p>The indicator is suitable to monitor the target but a clear definition of degraded land should be provided.</p>

<p>achieve a land degradation-neutral world.</p>	
<p>15.4. By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development.</p>	<p>15.4.1 Coverage by The indicators are protected areas of suitable to monitor the important sites for target. mountain biodiversity.</p> <p>15.4.2 Mountain Green Cover Index.</p>
<p>15.5. Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.</p>	<p>15.5.1 Red List Index. The indicators are suitable to monitor the target.</p>
<p>17.1 – 17.19</p>	<p>17.1.1 – 17.19.2 The indicators are suitable to monitor the targets</p>

Annex D

Table D1. Policy Coherence for Sustainable Development (PCSD) screening tool: an integrated checklist of key elements to be considered (source: OECD, 2016a)

Main elements	Aspects addressed
1. ANALYTICAL FRAMEWORK	
1.1. Actors <ul style="list-style-type: none"> • Which actors (countries, international organisations, as well as key stakeholders such as governmental, businesses and non-governmental decision-makers) have to be involved and influenced? • How can other countries and key stakeholders be better engaged in policy coherence efforts to support the implementation of SDGs? • What is the role of the private sector, civil society organisations, bilateral and multilateral donors, and other stakeholders? • Has the role of parliaments, subnational and local governments, and municipalities been considered? 	<ul style="list-style-type: none"> • Role of different actors and multi-stakeholder participation for enhancing PCSD • Involvement of partner countries
1.2. Policy inter-linkages <ul style="list-style-type: none"> • Have economic, social and environmental policy inter-linkages (synergies and trade-offs) been considered? • How do the planned policy outputs contribute to achieve sustainable development goals? • How does the actions to attain one SDG (e.g. food security) support or hinder progress in other SDGs (e.g. Water or Health)? • Are governmental organisations moving from sectoral perspectives (e.g. agriculture, trade, investment, water, energy) towards a more integrated decision-making processes and 'issues-oriented' agenda (e.g. food security)? 	<ul style="list-style-type: none"> • Interactions between economic, social and environmental policies • Synergies and trade-offs • Integrated approaches
1.3. Enabling and disabling conditions (contextual factors) <ul style="list-style-type: none"> • Have the existence of enabling environments which affect positively policy outcomes been considered? • Have the contextual factors (corruption, barriers to trade, knowledge, etc.) which might influence the policy outcomes been identified? What efforts have been made to address these factors? 	<ul style="list-style-type: none"> • Enablers • Disablers
1.4. Sources of finance <ul style="list-style-type: none"> • Have all the potential sources of finance been identified (public, private, domestic, international) for sustainable development? • Are there specific mechanisms to avoid fragmentation of international, regional, and national funding instruments? • Have the enabling conditions and necessary incentives to ensure contributions from private sources been considered? 	<ul style="list-style-type: none"> • Complementarities among sources of finance • Integrated financing frameworks
1.5. Trans-boundary and intergenerational impacts <ul style="list-style-type: none"> • Does the policy produce unintended effects, positive or negative, that could affect the well-being of people living in 	<ul style="list-style-type: none"> • Policy effects

other countries?

- Which groups would be affected and how? How can the unintended negative effects be mitigated?
- Have the potential direct or indirect long-term effects on well-being of future generations been identified?
- Are the economic, social and environmental costs of policy decisions considered?

2. INSTITUTIONAL FRAMEWORK

Whole of Government approaches

2.1. Awareness and understanding of sustainable development, SDGs, and PCSD

- Are the concepts of sustainable development, SDGs, and PCSD well understood by the public, governmental organisations and across levels of the government?
- What efforts have been made to develop clear, widely accepted and operational objectives and principles for achieving the SDGs?
- How do the SDGs inform policy-making?
- Has the role of PCSD been considered for implementing the SDGs?

- Awareness raising on the SDGs and PCSD

2.2. Political commitment

- Is there a clear commitment at the highest political level to the implementation of SDGs and formulation of a national strategy?
- Is there a political statement spelling out the government's commitment to PCSD?
- Is this commitment effectively communicated across levels of government?
- Has it made a public commitment endorsed at the highest political level to integrate sustainable development into specific sectoral policies with clear links to the SDGs?
- Has the government identified priority areas for PCSD and developed action plans?

- Political statement on PCSD.
- Sustainable development mainstreaming

2.3. Priority setting

- Are the current Sustainable Development priorities of the government aligned to the vision of the SDGs?
- Is policy coherence for sustainable development an element of the national strategy?
- Is there involvement of the Centre of Government in the coordination of high level priorities for sustainable development and for achieving the SDGs across line ministries?
- Are there specific mechanisms to ensure effective feedback between different levels of government?

- Commitment towards the SDGs
- Role of CoG

2.4. Multi-stakeholder involvement

- What mechanisms are in place to involve and promote active participation of the government departments, parliamentarians, civil society, business and industry, academia, in the preparation of national strategies for achieving the SDGs?
- How have other countries, international organisations and stakeholders been involved and helped inform the design of plans for enhancing PCSD?

- Whole-of government/whole of society perspective

2.5. Strategic framework

<ul style="list-style-type: none"> • Is the government aligning its national or sectoral strategies to the SDGs and setting whole-of-government plans for implementation at the domestic and international levels? • Is PCSD recognised in national strategies as an integral part of the means of implementation? • Have the roles and responsibilities for domestic and international implementation been specified? 	<ul style="list-style-type: none"> • National Strategies for SDG implementation
Policy coordination	
2.6. Coordination mechanisms	
<ul style="list-style-type: none"> • Have formal mechanisms been established for inter-ministerial collaboration, coordination and policy arbitration on SD? • Do these mechanisms provide opportunities for informing <i>ex ante</i> on domestic policy making as well as on its interface with foreign policies? • Is it located strategically within the government organisational structure to promote coherence and resolve policy conflicts (e.g. at the level of the Prime Minister's office)? • Is the budget process used to set priorities, reconcile policy objectives and promote policy integration? 	<ul style="list-style-type: none"> • Inter-ministerial collaboration • Role of CoG
2.7. Country specific SDG targets	
<ul style="list-style-type: none"> • Does the prioritised set of national targets acknowledge policy inter-linkages and cover the three dimensions of sustainable development? • Are the targets based upon the best available data, evidence? • Do the targets contribute to economic and social transformation as well as to preserve the natural asset base? 	<ul style="list-style-type: none"> • Clear governmental objectives.
2.8. Inter-linkages across governance levels	
<ul style="list-style-type: none"> • Has the government involved local stakeholders in the formulation and implementation of policies? • Is the national government supporting local authorities to increase or combine resources and capacities to formulate effective policy responses for sustainable development? • Are implementation responsibilities clearly divided among different levels of government, taking into account the distinct competences and comparative advantage of each level? • What mechanisms are in place to ensure coordination and joint action of agencies from different government levels involved in international initiatives? 	<ul style="list-style-type: none"> • Vertical coherence
2.9. Budget processes	
<ul style="list-style-type: none"> • Is the budget process used to align national priorities to the SDGs, reconcile sectoral objectives and foster policy integration? • What efforts are being made to re-structure the budgetary process to reflect the increasing cross-cutting nature of policy-making? Is sustainable development integrated into regular budget process? • In what ways are the policies and their associated resource allocations likely to reinforce each other for achieving sustainable development objectives? • How do policies and programmes reflect the priorities in the SDGs and Targets? 	<ul style="list-style-type: none"> • Mechanisms for reconciling policy priorities and integrating sustainable development
2.10. Administrative culture	
<ul style="list-style-type: none"> • What measures (management, performance incentives) are 	

used to encourage collaboration and greater mobility of civil servants among ministries?

- What mechanisms are in place to help increase the informal flow of information across ministries, institutions and sectors?
- How sustained collaborative relationships are promoted among senior-level officials across the government?

3. MONITORING FRAMEWORK

3.1. Strengthening monitoring and reporting mechanisms

- Are monitoring and reporting systems in place? Do they draw on evidence from officials and other reliable and impartial sources?
 - Reporting
 - Analytical capacity
- Is there transparent reporting to parliament and the public on PCSD, and on the impact of sectoral policies on SD?
- Are resources and capacity adequate to analyse PCSD?
- Is there a mechanism for assessing the performance of sectoral policies with regard to SD?
- How are policies adjusted as new information on negative effects appears in the course of implementation, or as circumstances and priorities change?

3.2. Adapting monitoring mechanisms to the new agenda

- Have specific indicators been identified at the national level to measure progress on PCSD?
 - Data collection
 - Indicators
- Is the monitoring system considering the whole policy-making cycle (identification, formulation, adoption, implementation and assessment)?
- Have indicators been identified to address all elements of PCSD (functions and capacities, policy interactions in achieving SD outcomes, and policy effects)?
- Are trans-boundary and long-term effects taken into account?

3.3. Measuring policy interactions

- Have the critical interactions across SDGs and Targets been mapped out? Have potential synergies and trade-offs been identified? Have PCSD priority areas been identified based on these interactions?
 - Capturing synergies and trade-offs
- Can existing indicators at national and subnational level be used to capture policy interlinkages and examine co-relations across sectors (e.g. rate of deforestation due to agricultural expansion)?

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